



In collaboration with Tabadlab

Digital FDI Initiative: Digital FDI-Enabling Project in Pakistan

INSIGHT REPORT
JANUARY 2025



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Foreword

In today's interconnected world, digital transformation is not just reshaping economies, it's transforming lives. It is a powerful force that drives innovation, bridges divides, and unlocks new potential for individuals, businesses, and nations. At the heart of this transformation is the need to attract investments that drive progress, making Digital Foreign Direct Investment (FDI) a critical enabler of resilient and future-ready economies.

Recognizing this, the Digital FDI Enabling Project in Pakistan (DEP) was conceived as part of the wider Digital FDI Initiative. This collaboration between the Digital Cooperation Organization (DCO), the World Economic Forum, and the Government of Pakistan, specifically the Ministry of Information Technology and Telecommunication (MoITT) and the Board of Investment (BOI), demonstrates the transformative power of partnerships. By joining forces, we have worked to connect the opportunities of digital transformation and chart a pathway for Pakistan to emerge as a hub for global digital investments.

This initiative aims to position Pakistan as a global leader in the digital economy. This vision is not just about attracting investments; it is about building an ecosystem that fosters innovation, empowers communities, and creates opportunities for all. The consultative process that shaped this report reflects our unwavering commitment to action. By bringing together key stakeholders, we have identified strategic priorities that will guide Pakistan's digital transformation journey. These priorities have been translated into actionable plans, ensuring that this report serves as a roadmap for the future.

Pakistan has already made significant progress in its digital journey, with supportive policies, emerging technology zones, and growing IT exports. Yet, challenges such as regulatory complexities, gaps in digital infrastructure, and investor confidence remain. These are not insurmountable hurdles; rather, they represent opportunities for collective action and innovation.

The DCO remains committed to facilitating the realization of the immense digital potential of Pakistan. I extend my heartfelt gratitude to the experts, researchers, and stakeholders whose unwavering dedication and invaluable insights have shaped this report. It is more than just a resource; it is a call to action. It invites all of us, policymakers, businesses, and citizens, to envision and contribute to an ecosystem that not only attracts and sustains Digital FDI but also drives inclusive and sustainable digital growth for Pakistan's future.

As we look ahead, our vision is clear: a digital economy that is inclusive, sustainable, and human-centered, one that leaves no one behind. This journey is not only about unlocking opportunities today but also about building a digital legacy for generations to come.

Deemah AlYahya

Secretary-General

The Digital Cooperation Organization



Foreword

In an era where digital transformation is reshaping economies worldwide, Pakistan is on the brink of a digital revolution, ready to tap into the vast potential of its rapidly growing digital ecosystem.

This report, a result of the collaborative efforts between the Digital Cooperation Organization (DCO), the World Economic Forum, Board of Investment, and the Ministry of IT and Telecommunication (MoITT), provides a pioneering roadmap for attracting digital Foreign Direct Investment (FDI) and nurturing a thriving digital economy.

With a youthful and dynamic population, expanding mobile connectivity, and a vibrant start-up ecosystem, Pakistan is becoming a leading example of digital innovation and investment. The Ministry remains firmly committed to achieving the vision of a 'Digital Pakistan,' driven by a series of carefully planned initiatives developed through extensive stakeholder consultations.

These initiatives aim to bridge the gap between industry and academia to develop a skilled digital workforce, ensure efficient spectrum management for improved connectivity, and establish a stable and investor-friendly regulatory framework.

We cordially invite all stakeholders—private sector, academia, and international partners—to join us in this transformative journey. Together, we will shape a digital future that positions Pakistan as a global leader in the digital economy, fostering inclusive and sustainable growth for all.

Shaza Fatima Khawaja

Minister of State for Information Technology & Telecommunication
Government of Pakistan

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Executive summary

Pakistan is striving to boost digital foreign direct investment in the country by promoting a “digital-friendly” investment climate.

The Digital Foreign Direct Investment (FDI) Initiative was officially launched by the World Economic Forum and the Digital Cooperation Organization (DCO) in 2022 at Davos. The initiative is a pioneering effort to facilitate cross-border investment in the digital economy, especially in emerging markets. Pakistan is the first country to volunteer to implement this initiative, marking the beginning of the Digital FDI-Enabling Project (DEP) in 2022.

The project is structured around four pillars adopted from the Forum and DCO's Digital FDI framework – (1) digital infrastructure, (2) digital adoption, (3) new digital activities and (4) digital services exports – each targeting critical areas for growth that are essential for attracting sustained digital FDI in Pakistan.

To identify challenges, opportunities and priority actions that can enable increased digital FDI in Pakistan, the project adopted a stakeholder-centred approach, gathering insights from extensive stakeholder consultations, a workshop and an investors' survey.

Six priority actions have been successfully identified across the four pillars (Figure 1), and the project team is currently supporting the development and implementation of each initiative with the Government of Pakistan Project Partners – the Board of Investment (BOI) and the Ministry of Information Technology and Telecommunication (MoITT). The finalized priority actions are as follows:

1. Promote private-sector projects based on sectoral priorities and ticket size to connect local players with international investors/

partners.

2. Increase the role of the Prime Minister's Office in supporting a holistic agenda and implementation of digital economy priorities (in particular, investor confidence through an improved enabling environment).
3. Enhance human capital by bridging the industry–academia gap to improve digital skill sets through advanced education and internationally accredited training programmes.
4. Become a digital-centric investment destination by offering a rationalized and stable tax policy and regulations for investors.
5. Accelerate the operationalization of special technology zones (STZs).
6. Ensure efficient spectrum management through fair pricing and transparent processes enabling timely network deployment and use to improve connectivity.

This report outlines the comprehensive process undertaken by the project team to identify and finalize targeted actions through a multistakeholder consultative process, carefully tailored to Pakistan's unique socioeconomic conditions, regulatory framework and evolving digital landscape. Implementation of these actions can bring to fruition the project's aims and objectives set at the outset to implement the necessary measures required to boost the digital economy of Pakistan by creating an enabling environment for digital FDI.

1

Digital FDI Initiative

The aim of the Digital FDI Initiative is to create a more inclusive digital economy by supporting policy development and practical frameworks that enable emerging markets to benefit.

1.1 Overview

Launched in 2022 through a collaboration between the World Economic Forum and the Digital Cooperation Organization (DCO), the Digital Foreign Direct Investment (Digital FDI) Initiative seeks to address the increasing need for cross-border investments in the digital economy, particularly in emerging markets.

The Forum, a global leader in promoting international cooperation, and the DCO, a multilateral organization focused on the digital economy, have partnered to tackle the barriers to digital investments. This collaboration is critical for ensuring that investments reach underserved regions and help scale digital transformations worldwide.

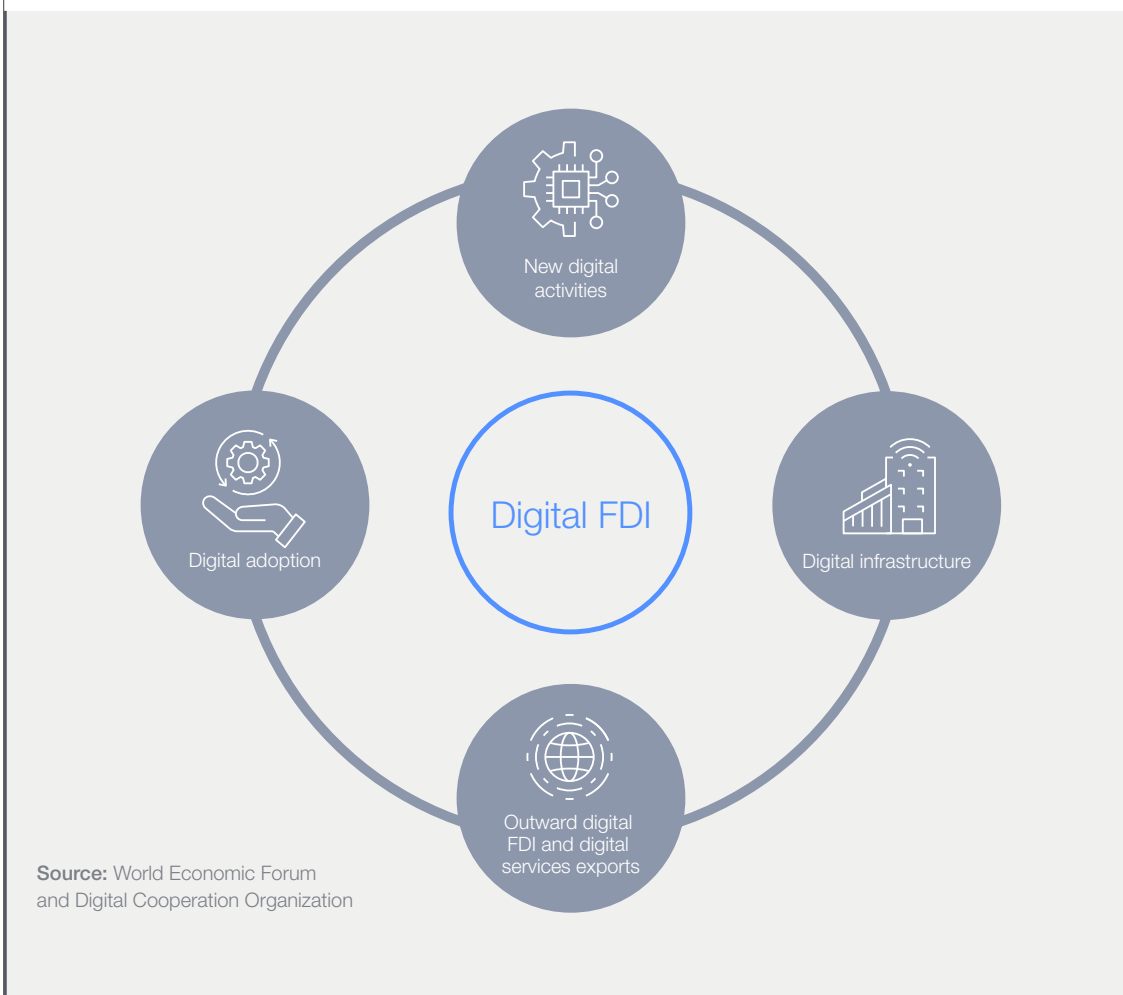


1.2 The Digital FDI framework

The initiative builds upon the effort initiated by the Forum in 2020 through its white paper that outlines important measures, policies and regulations necessary for countries aiming to attract digital FDI.¹ The DEP project's Digital FDI framework is organized around four pillars specifically designed to accelerate the growth of the digital economy.

By applying this framework as an analytical tool, country projects undertaken within the initiative can systematically organize key outputs and outcomes at each stage to ensure a focused and strategic approach to drive digital growth.

FIGURE 1 The DEP project's Digital FDI framework



Pillar 1 Digital infrastructure: Elements that enable investment in digital infrastructure, which includes both a physical dimension and a regulatory dimension.

Pillar 2 New digital activities: Elements that enable investment in new digital activities such as social media, digital platforms, cloud services and data centres.

Pillar 3 Digital adoption: Elements that enable digital adoption by traditionally non-digital firms as facilitated by policies and measures that enable the integration of digital services.

Pillar 4 Outward digital FDI and digital services exports: Investment that helps develop local capacity to enable two-way integration with the global digital economy.

1.3 Project objectives

The Digital FDI-Enabling Project (DEP) in Pakistan aims to:

- Identify the state of play regarding digital FDI flows, relevant laws and regulations
- Identify and help implement elements (including revision of current and/or proposing new policies, regulations and measures) that enable FDI in new digital activities, for instance start-ups, apps and other new digital services
- Identify and help implement elements that enable digital adoption by traditionally non-digital firms
- Identify and help implement elements that enable FDI in digital infrastructure, which includes both a physical dimension and a regulatory dimension (the focus should be on hard infrastructure, such as connectivity, data centres, etc.)
- Identify and help implement home-country elements that enable digital services exports and outward digital FDI flows, for when it might be relevant to use outward FDI as an additional channel for digital capacity and development

Digital FDI-Enabling Project (DEP) in Pakistan

The digital ecosystem in Pakistan has great potential. FDI that supports its growth is a powerful driver of sustainable economic progress.

Pakistan is the first country to volunteer to implement the Digital FDI Initiative, marking the beginning of the Digital FDI-Enabling Projects (DEPs) in 2022. The project aims to boost digital FDI in Pakistan by promoting a digital-friendly investment climate, through increasing investor interest and activity in the country.

Such investment can offer access to advanced technology, global expertise and infrastructure that can accelerate economic growth, boost competitiveness and promote resilience. For the purpose of this report, Pakistan's digital economy is understood through the Digital FDI framework presented in Figure 1.

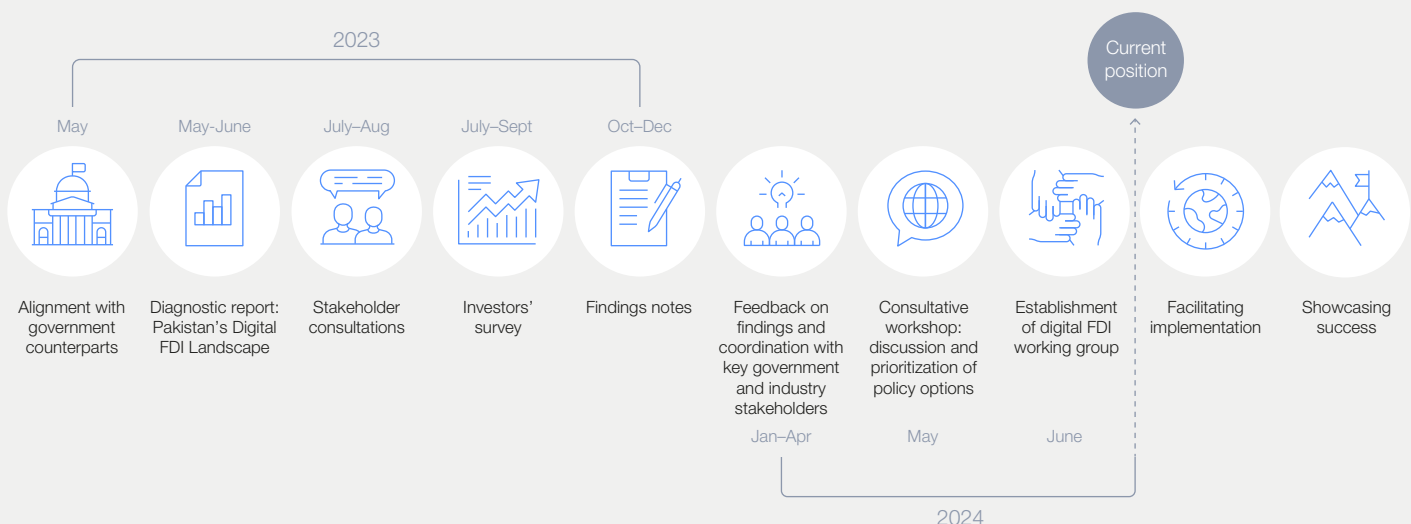
2.1 Project activities

The DEP in Pakistan aligns with the country's broader digital transformation agenda to strengthen its digital FDI portfolio. By engaging key stakeholders to carry out a comprehensive analysis of the country's digital landscape, the project aims

to systematically address barriers to growth and realize opportunities for boosting FDI in Pakistan's digital economy. The project follows a structured approach, with the stages outlined as follows:

FIGURE 2 Stages of the Digital FDI-Enabling Project in Pakistan

Project stages



Source: World Economic Forum and Digital Cooperation Organization

To initiate the project, introductory meetings were held to align key objectives with Government of Pakistan counterparts. A desk review was conducted to assess the policy and regulatory environment, FDI trends and developments in the technology and investment landscape. This review also identified key stakeholders and provided a detailed analysis of factors influencing digital FDI in Pakistan.

To improve understanding, a comprehensive consultative exercise was undertaken with 70 key stakeholders, both local and international, throughout the digital ecosystem. Of these, 65 consultations were held in person in Islamabad, Lahore and Karachi, while the remaining five were conducted virtually. The stakeholder groups engaged in these consultations are outlined below:

TABLE 1 **Sectoral and numerical breakdown of stakeholder groups engaged in the project's consultative phase**

Stakeholder	Consultations held
Federal institutions	13
Provincial institutions	4
Investors	7
Businesses	15
Business associations	4
Banks	2
Development partners	5
Incubators	2
Civil society organizations	1
Academia	4
Subject-matter experts	13
Total	70

Additionally, a survey aimed to identify enabling factors that influence firms' decisions to invest in Pakistan's digital economy. The survey was taken by 100 firms that have invested in the country's digital economy in various sectors, including information technology (IT), telecom, e-commerce and electronics and financial services.

This consultative and data-gathering process identified 55 policy options as possible recommendations for addressing gaps in Pakistan's digital ecosystem and attracting more digital FDI. These insights were consolidated in a Findings Note that was reviewed by government partners and key industry stakeholders and presented to participants at the consultative workshop. The 55 policy options were collectively prioritized to establish six priority actions through the workshop, which provided a platform for stakeholders to collaboratively identify critical issues, prioritize interventions and align on the next steps for enabling digital FDI growth.

A technical working group (TWG) with representation from the project team and Government of Pakistan partners was formed after

the workshop. This group was mandated to work through the next steps to support implementation of the chosen policy priorities and actions.

Action plans for each of the six priority areas have been drafted and are awaiting approval by the BOI and MoITT, after which the project will move into its implementation phase. The six priority actions are as follows:

1. Promote private-sector projects based on sectoral priorities and ticket size to connect local players with international investors/partners.
2. Increase the role of the Prime Minister's Office in supporting a holistic agenda and the implementation of digital economy priorities (in particular, investor confidence through an improved enabling environment).
3. Enhance human capital by bridging the industry-academia gap to improve digital skill sets through advanced education and internationally accredited training programmes.

4. Become a digital-centric investment destination by offering rationalized and stable tax policy and regulations for investors.
5. Accelerate the operationalization of special technology zones (STZs).
6. Ensure efficient spectrum management through fair pricing and transparent processes enabling timely network deployment and use to improve connectivity.

2.2 Pakistan's digital ecosystem

The DEP in Pakistan was conceived in the context of the digital ecosystem and FDI trends to understand and diagnose drivers, barriers, opportunities and areas of intervention through a detailed multistage process that consisted of in-country and virtual consultations and inputs from all key stakeholders.

The Forum's Digital FDI framework has been adopted to help grow Pakistan's digital economy. Accordingly, an analysis of Pakistan's current digital landscape has been organized in terms of relevant pillars in the following sections, beginning with the identification of the primary stakeholders involved. It is important to highlight that while each pillar of the framework is distinct and vertical, there is potential for horizontal overlap when applied to Pakistan's digital ecosystem.

Pakistan currently does not have a formal definition of the "digital economy" and therefore does not report metrics assigned to the "digital economy" as a category in administrative or periodic datasets.

To understand this landscape, and corresponding investment and market trends, a composite of various indicators related to identifiable digital segments and FDI need to be used.

2.2.1 Key stakeholders

Given the developing nature of the digital economy in Pakistan, a federal structure of governance and key sectors consisting of legacy and digital segments, stakeholders that can influence and/or govern the digital economy can be categorized as shown in table 2.

Throughout the project, key stakeholders across each category were actively engaged follow-up meetings and a dedicated stakeholder workshop. This comprehensive engagement provided invaluable insights into Pakistan's digital landscape and investment ecosystem to inform the project's direction and outcomes.

TABLE 2 Key stakeholder groups in Pakistan's digital economy

Stakeholder group	Overview
Government entities – federal and provincial	These develop and implement policies, regulations, laws and measures that govern the investment and digital landscape of Pakistan at both the federal and provincial levels
Investors	Local and international actors invest in current and new businesses
Digital businesses (e-commerce, finance, energy, telecommunications companies, logistics, etc.)	Enterprises across the digital economy value chain that operate and offer platforms, products and services to businesses, consumers and governments
Incubators/accelerators	These facilitate the development of start-ups by offering a competitive, growth-oriented environment as well as guidance and mentorship; they are linked with other actors and parts of the digital ecosystem
Knowledge partners (academia/research organizations)	These collect evidence and/or contribute to policy and industry development processes
Business associations	These act as a consultative bridge between the public and private sectors to create an enabling investment ecosystem through inputs and feedback on policy and regulatory instruments
Civil society organizations	These influence the regulatory environment and the political economy with regard to the digital sector through policy advocacy, consultations and awareness, promoting transparency and accountability in the system

2.2.2 Mapping Pakistan's digital economy

The project set out to understand Pakistan's digital economy landscape from the perspective of the Digital FDI framework by drawing on consultative insights, survey results and supplementary research to identify challenges/opportunities and prioritize areas of intervention.

Pillar 1 Digital infrastructure

Pakistan's digital infrastructure, both physical and regulatory, remains underdeveloped.

Physical infrastructure

Cellular mobile services in Pakistan have achieved significant milestones in connectivity and broadband penetration. As of June 2024,² network coverage extends to 91% of the population, with 3G/4G signals accessible to more than 81% of the population. The operational infrastructure includes 55,777 mobile sites, of which 95.5% are 4G-enabled.³ These developments have led to an increase in broadband subscribers, reaching 142.3 million by September 2024 – a 91% growth in the last five years.⁴ Consequently, broadband penetration has surged to 58.4%, a substantial improvement from 32.6% in 2019.⁵ About 67% fewer women than men have access to internet, highlighting a potential area for greater inclusivity.⁶

The telecom sector in Pakistan is mobile-first, with 79.1% mobile phone ownership.⁷ Smartphone usage in Pakistan has been steadily increasing. According to the Pakistan Telecommunication Authority (PTA), by the end of November 2024, 65% of mobiles owned by Pakistanis are smartphones. At the time of this report, fixed broadband penetration stood at less than 2%⁸ however, the government has indicated that raising this figure is a national priority and is expected to increase as outlined in the PTA's *Annual Report 2024*.⁹

Currently, the country is being serviced by four mobile service providers: Pakistan Mobile Communication Limited (Jazz), Telenor Pakistan (Telenor), China Mobile Pakistan (Zong) and Pakistan Telecom Mobile Limited (Ufone). All four have foreign ownership of varying levels – ranging from complete ownership to management control only. Prominent fixed-line internet providers include Pakistan Telecommunication Company Limited (PTCL), Nayatel, Transworld and Cybernet, with PTCL having the most significant local ownership.

Regulatory infrastructure

Increased awareness of the need to strengthen Pakistan's digital ecosystem in order to attract FDI in the digital economy has driven policy

and regulatory measures. These have targeted the export-driven IT sector, the digitalization of important government services and the creation of an environment conducive to FDI.

Stakeholders have highlighted the need for better coordination within the institutional architecture, where federal and provincial agencies operate in parallel. Streamlining the regulatory environment and minimizing fragmentation would further strengthen investor confidence.

Pakistan's technology policy falls into two categories:¹⁰

- **Digital economy regime**, governing the digital sector and shaping the development of Pakistan's digital economy
- **Investment regime**, overseeing the investment climate and business environment for investors in the digital economy

There is a need to address both to increase FDI and create an incentive to invest.

Digital economy regime

There is a need for enhanced alignment between government and regulatory agencies. While the Ministry of Information Technology and Telecommunication (MoITT), the National Information Technology Board (NITB) and provincial IT boards in Punjab¹¹ and Khyber Pakhtunkhwa¹² have developed localized digital policies, better coordination can ensure a uniform digital governance framework. Data localization and internet governance measures, influenced by national security and social considerations, shape the digital regulatory framework. Finalizing critical legislation, such as the Personal Data Protection Bill,¹³ would address concerns from global businesses and rights advocates, strengthening the digital investment climate.

Investment regime

Pakistan has taken steps to simplify its bureaucratic processes and improve the business environment to attract more digital FDI. Initiatives such as the Pakistan Regulatory Modernization Initiative (PRMI),¹⁴ launched in 2021, and the establishment of the Special Technology Zones Authority (STZA) have contributed to these efforts. The Foreign Investment (Promotion and Protection) Act of 2022¹⁵ offers safeguards for FDI, but its benefits are yet to be fully realized due to pending cases. Expediting documentation processes and complaint resolution and arbitration mechanisms can improve the investment landscape. Pakistan has improved its ranking in the World Bank's *Ease of Doing Business* report,¹⁶ and further simplification of institutional processes could bolster investor confidence.

A detailed map of important legislation, regulations and policies that govern the digital and investment landscape can be found in Annex 1.

Pillar 2 Digital adoption

The Digital Pakistan Policy of 2018¹⁷ was a significant step that promoted digital adoption in sectors such as banking, education and health. However, its implementation has been uneven, particularly among small and medium enterprises (SMEs), which face barriers including low digital literacy and limited access to digital tools.

The COVID-19 pandemic temporarily accelerated digital adoption in areas such as e-commerce and digital payments, driven by start-ups. Sustaining this momentum requires addressing macroeconomic challenges, improving regulatory consistency and fostering coordinated digital infrastructure development to support long-term growth.

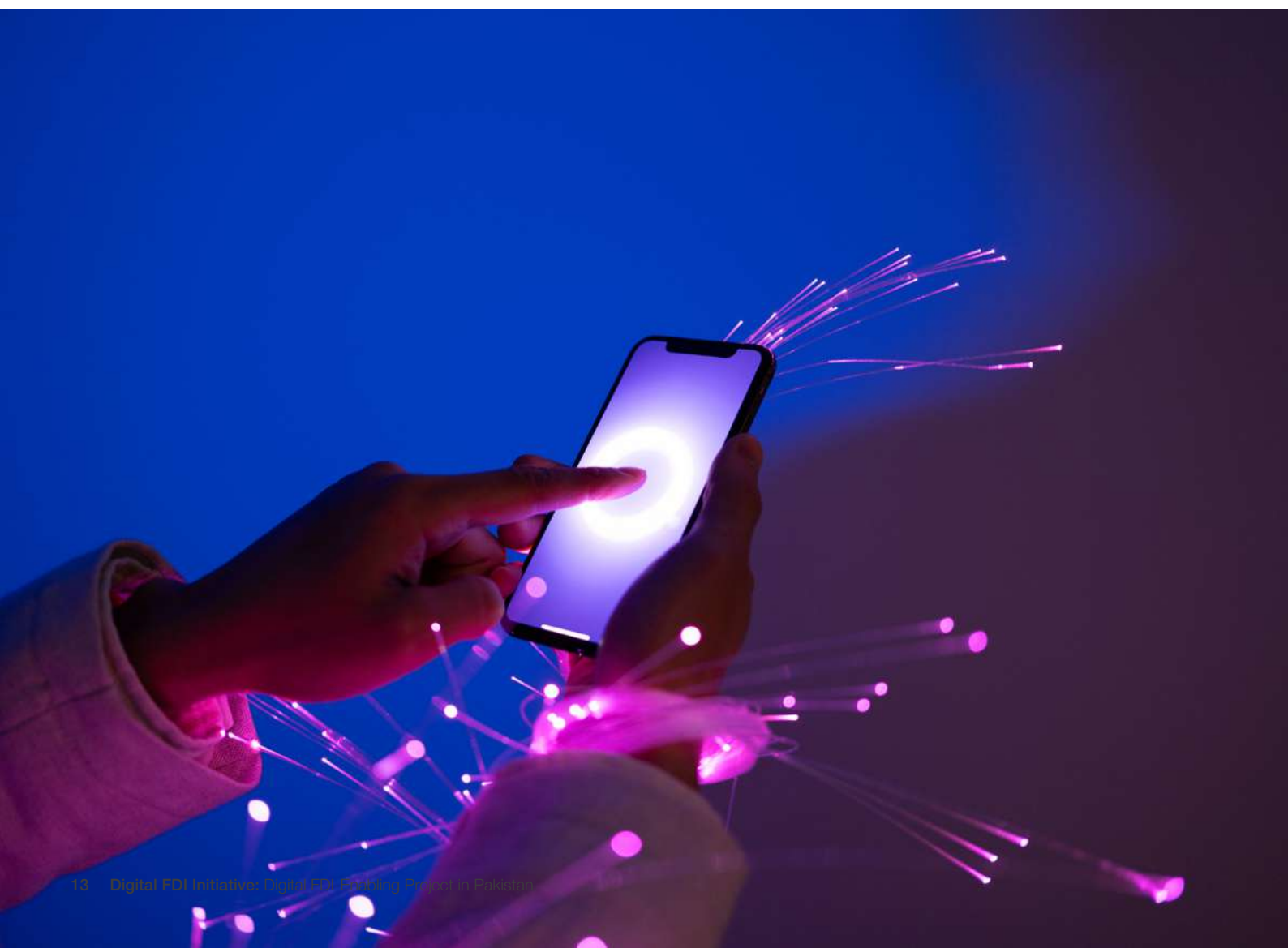
Pillar 3 New digital activities

Data centres offering cloud services are largely supported through local sponsors. Key players include RapidCompute, PTCL, Nayatel, Multinet, Cloudways and Cybernet. Some international players do offer services through local partners, e.g. AliCloud through Telenor. AWS has recently established a local office under the name Amazon Data Services Pakistan and is looking to introduce offerings to encourage the uptake of cloud computing. Despite a push from regulatory

provisions, major social media platforms have yet to establish a local office with resident staff in Pakistan. So far, Google has opened a liaison office, with others now allowed to operate with a virtual presence. The absence of robust data protection measures presents a challenge for external cloud hyperscalers entering the market,¹⁸ with data localization requirements being an important consideration. The investors' survey confirms the necessity of data localization requirements, and copyright and patent laws to protect intellectual property are a significant factor for companies when considering investment. The complete results of the survey can be found in Annex 2. Strengthening these protections could help create a more conducive environment for investment opportunities in Pakistan.

Pillar 4 Digital services exports and outward digital FDI

Pakistan's digital services exports, primarily driven by the IT sector, have shown strong growth. In 2024, Pakistan's IT exports reached \$3.2 billion,¹⁹ reflecting a notable year-on-year increase of 24% from the previous fiscal year's \$2.59 billion.²⁰ However, there is significant potential for even greater growth, especially when compared to the progress of regional peers. To enhance integration with the global digital economy, a fully supportive ecosystem for outward digital FDI is required.

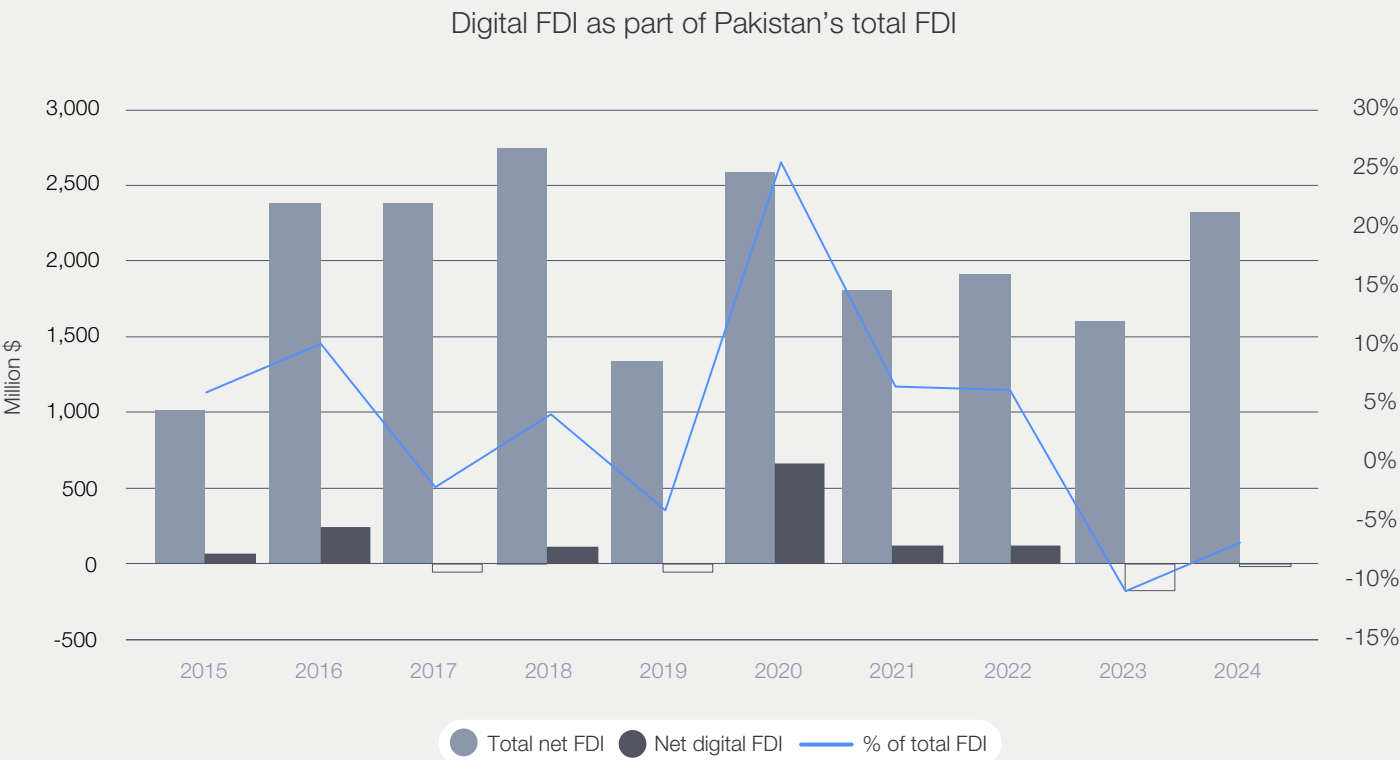


2.3 Digital FDI in Pakistan

Pakistan has attracted relatively low levels of digital FDI, especially compared to regional peers such as India and Indonesia. FDI in India is nearly 20 times higher.²¹

Figures 3, 4 and 5 present a five-year snapshot of digital FDI trends in three main areas: IT, telecom and start-ups.²²

FIGURE 3 Three kinds of FDI trends in Pakistan: total net FDI, net digital FDI and percentage of total FDI 2015–2024



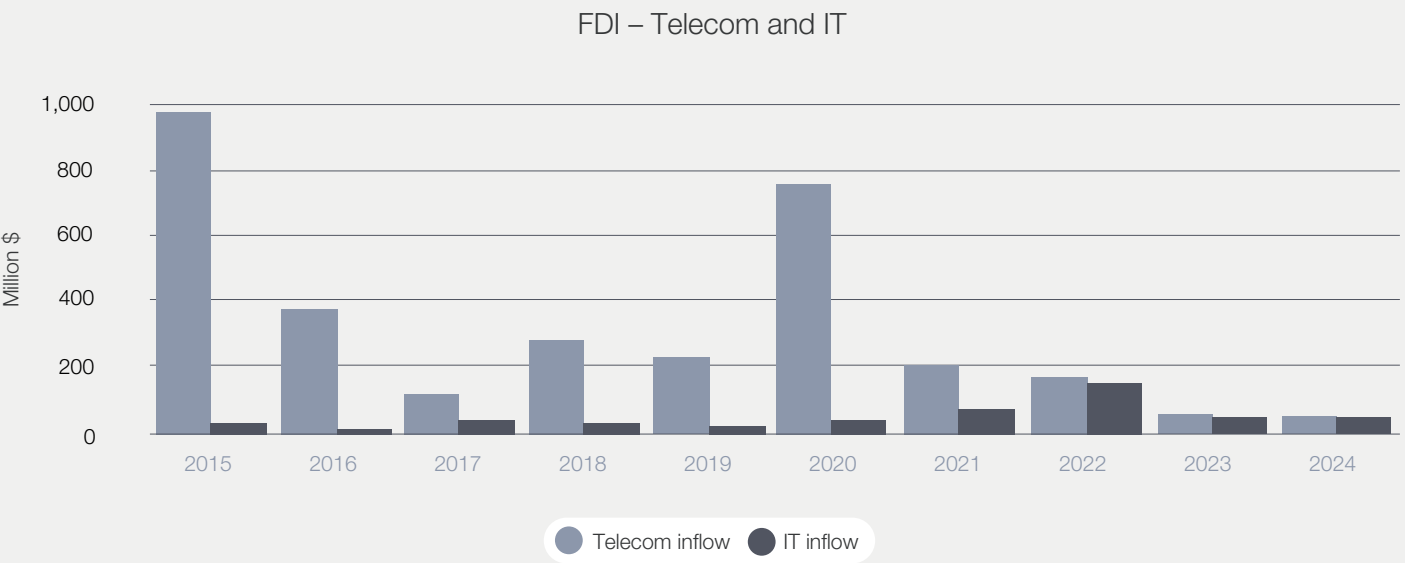
Source: State Bank of Pakistan

Between 2018 and 2024, net digital FDI²³ in Pakistan has shown some growth, though there have been fluctuations, with net FDI turning negative in 2023 and 2024.²⁴ This reflects a shift, with more outflows compared to inflows. The spike in digital FDI in 2020, driven by investments during the COVID-19 pandemic, was a positive moment, though the momentum has since decreased. In the fiscal year (FY) 2022, IT and telecom combined contributed 6% of Pakistan's total FDI, a decrease

from 25% in FY 2020. The recent slowdown in digital FDI is influenced by challenging local and global macroeconomic conditions, including the fluctuations in the Pakistani rupee (PKR) against the US dollar.

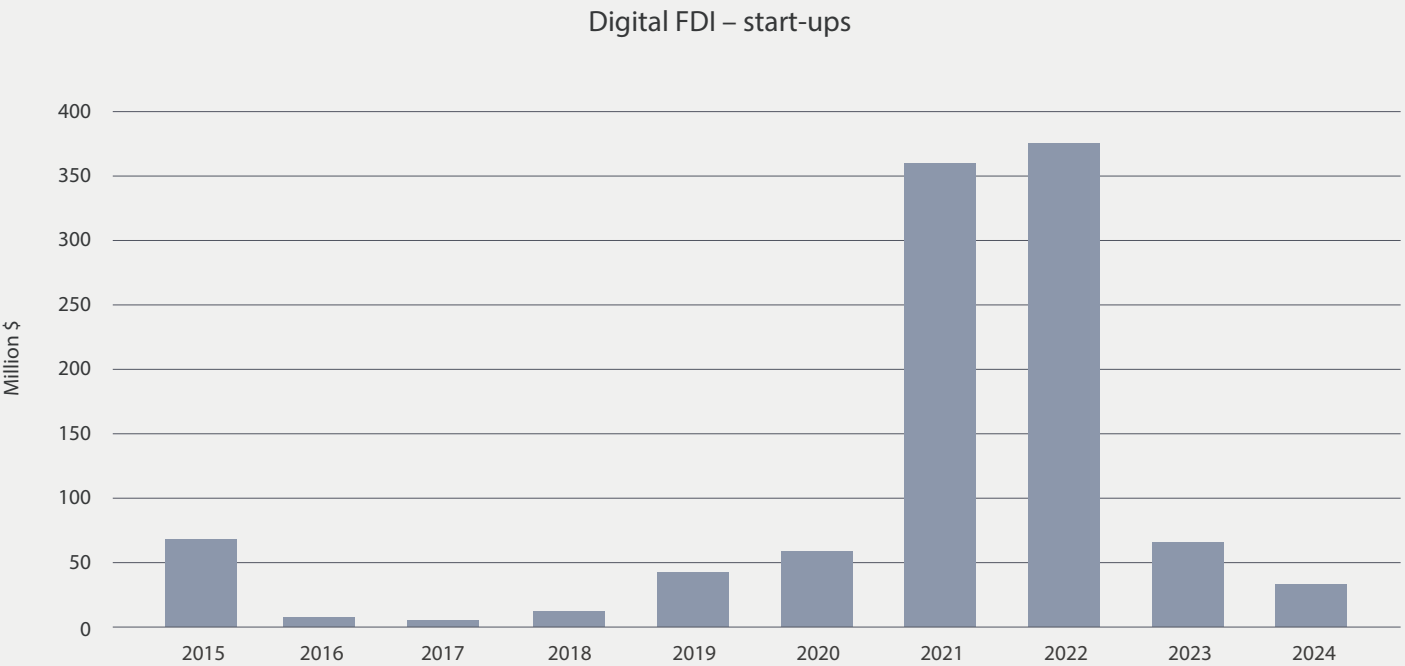
With the formation of a new government in February 2024, there is an opportunity to stabilize political conditions, which will help boost investor confidence and further attract digital FDI.

FIGURE 4 | Pakistan's telecom and IT sector inflows and net flows 2015–2024



Source: State Bank of Pakistan

FIGURE 5 | Total digital FDI in Pakistan start-ups 2015–2024



Source: Invest2Innovate

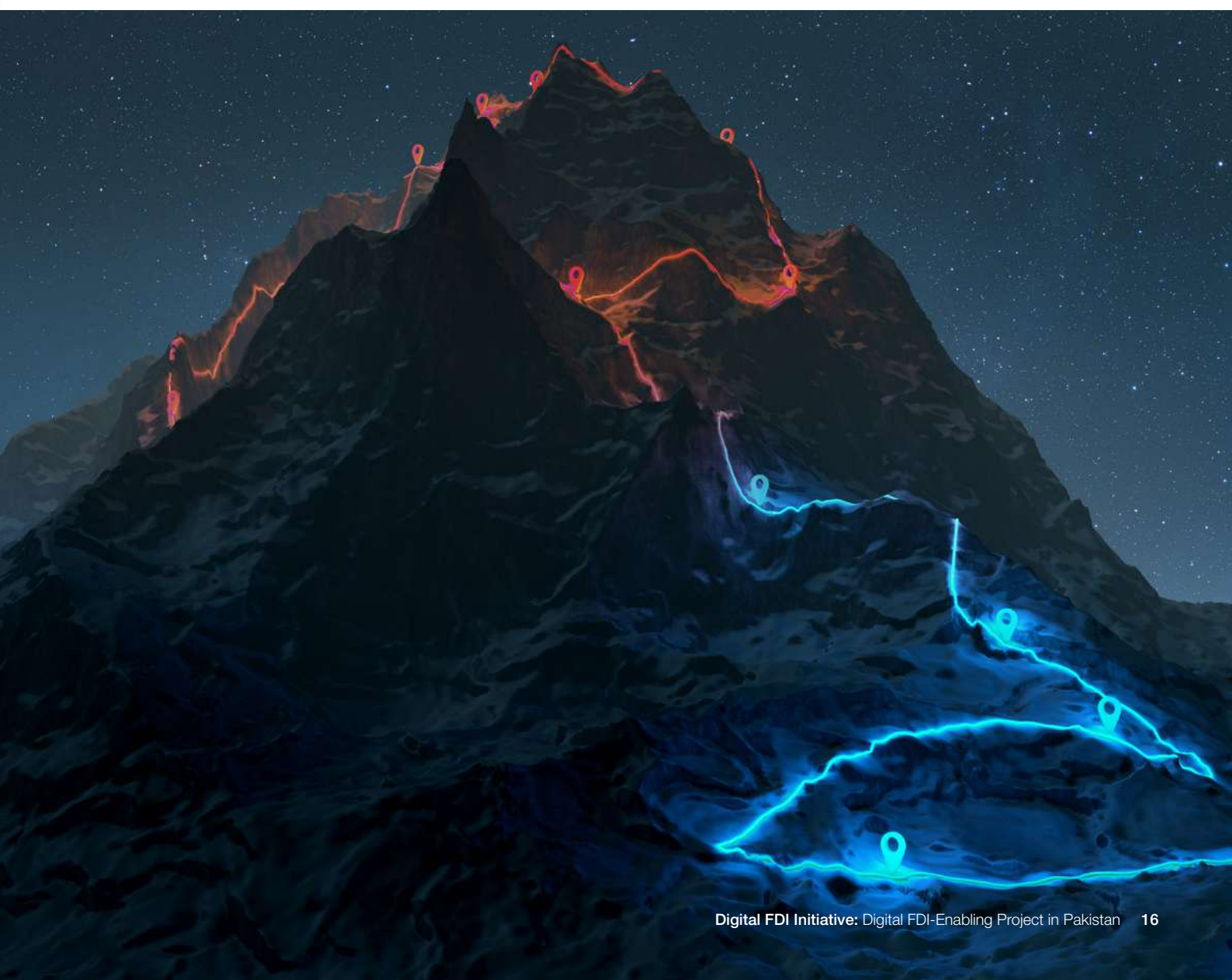
Historically, the telecom sector has driven Pakistan's digital FDI flows, but in FY 2022 the sector recorded a net outflow of \$29 million.²⁵ Since 2015, inflows have remained low, with the 2020 spike explained by telecom operators' payment of \$103.17 million for licence renewals.²⁶ Recent radio frequency spectrum auctions have seen limited participation, due to taxation, spectrum pricing and the impact of currency fluctuation. With spectrum prices linked to the US dollar, telecom companies operating in PKR face challenges in fulfilling payment obligations for both past and future acquisitions. There is a need to implement reforms that can alleviate financial pressures on operators, paving the way for a more robust and investment-friendly telecom sector.

Pakistan's telecom sector has potential for significant growth, driven by initiatives such as the upcoming 5G spectrum auction,²⁷ the Mobile Virtual Network Operator (MVNO) Policy²⁸ and the Mobile Device Manufacturing and Export Policy.²⁹ These efforts aim to enhance market competition, reduce import reliance and promote local manufacturing. Additionally, the upcoming National Fiberization Policy can expand high-speed internet access, benefiting businesses and individuals across the country. The National Space Policy of 2023³⁰ should further support connectivity and technological

advances by strengthening Pakistan's space capabilities. Together, if implemented successfully, these policies are expected to attract FDI, create jobs and bolster Pakistan's digital infrastructure.

Start-ups in Pakistan have been the most important recipients of FDI in new digital activities. By 2021, they had secured nearly \$352 million in investments³¹ and in 2022, investments were all time higher to \$355 million, with financial technology (fintech), educational technology (edtech) and agricultural technology (agritech) standing out as key emerging sectors. In 2021 alone, a significant boost of \$287 million was observed³². However, investment levels decreased to \$74 million in 2023 and were at \$37 million till November 2024. With strategic support and policy development, the potential for renewed growth in these sectors remains promising.

The shift in investment towards start-ups since COVID-19 has driven significant growth in FDI over the past five years, highlighting the potential of Pakistan's digital economy. Notable deals, such as the \$350 million acquisition of Cloudways by DigitalOcean,³³ underscore the growing importance of emerging technologies such as blockchain, cloud computing and the internet of things (IoT) for the country's digital FDI landscape.



Pakistan's digital opportunity

The Digital FDI-Enabling Project aligns strongly with the emerging digital agenda in Pakistan and represents a high-impact opportunity to stimulate progress on supporting growth of the digital economy.

3.1 Digital Nation Pakistan

Positioning Pakistan as a digital-friendly destination has been a priority for governments since 2018 when the first Digital Pakistan Policy was announced. Since then, several initiatives have helped strengthen elements of the digital ecosystem. IT exports have been growing and reached \$3.2 billion by 2024.³⁴ After elections in 2024, the newly formed government approved a comprehensive transformation plan called Digital Nation Pakistan, which focuses on the digital economy, society and government as levers for growth in investment, exports and digitalization of sectors. Realizing that there are institutional challenges to promoting and implementing a coherent digital agenda, the government formed the National Digital Commission, headed by the Capitalisation, and it has been working on the establishment of the Pakistan Digital Authority

as a central agency to oversee and Implement a coherent digital agenda throughout the country. The government is also undertaking various ongoing and planned initiatives, including the Pakistan Regulatory Modernization Initiative (PMRI) and the World Bank-sponsored Digital Economy Enhancement Project (DEEP), aimed at fostering a thriving digital economy through enhanced regulatory support. The Asaan Karobaar Act simplifies business regulations, while the DEEP promotes digital infrastructure regulatory frameworks. The BOI plans to launch the Pakistan Business Portal to streamline business registration, applications and payments. Digital transformation holds immense economic potential for Pakistan and, if fully effected by 2030, could create up to PKR 9.7 trillion (\$34.9 billion) in economic value (estimated by Access Partnership in 2021).³⁵

3.2 Unlocking potential: Analysing Pakistan's digital investment landscape

The country's developing digital market holds significant potential for investors, with an untapped consumer base, sectors ripe for innovation and increasing government incentives to attract foreign capital. A large, young population further boosts the prospects for digital adoption and growth in digital services. There is untapped potential for digital growth if challenges such as macroeconomic fluctuations, political transitions and regulatory complexities are addressed. Expanding connectivity infrastructure, especially in underserved areas

outside major cities, presents significant opportunities to bridge digital divides and accelerate comprehensive digital development.

The opportunities and challenges listed in Sections 3.2.1 and 3.2.2 emerged from consultations with 70 local and international stakeholders within Pakistan's digital ecosystem. They provide a comprehensive briefing on the critical factors shaping Pakistan's digital landscape and identify target areas for policy interventions and recommendations.

3.2.1 Opportunities

The digital opportunity in Pakistan arises from a mix of demographic and market factors coupled with the existing policy suite to promote digital adoption.

An unsaturated, still developing digital market offering first-mover advantages for investors

- Pakistan's still developing digital economy offers an untapped consumer base and an unsaturated market to businesses and investors.
- In many sectors, especially those using emerging technology, investors have the opportunity to make the most of first-mover advantage in this developing market. The exponential influx of FDI through funding in start-ups in the years 2020 and 2021 is indicative of this investment potential.

Demographic dividend of a sizeable youth population that can drive digital adoption

- Pakistan has one of the youngest populations in the world, with a median age of 23 years. Its significant youth bulge offers a large cohort of young people who are receptive to new technologies and the adoption of digital services.
- A large youthful population cohort also implies that a human resource base can be developed with the requisite skills and capacity to support businesses.

High mobile readiness and adoption enabling access to a growing digital economy

- Pakistan is a mobile-first economy with 143 million mobile broadband subscribers³⁶ and a 64% smartphone ownership rate.³⁷ This means that the majority of Pakistanis can access basic digital services, while citizens owning smartphones can meaningfully engage with and support a developing digital economy, thereby offering businesses and investors a significant potential market.

Fiscal incentives to stimulate investment and generate activity in the digital economy

- The government provides fiscal incentives aimed at promoting trade, enhancing export competitiveness and facilitating domestic economic operations to attract investments and stimulate growth.
- In 2020, a mobile phone manufacturing policy was introduced with tax incentives, including a 4% withholding tax exemption on domestic sales and reduced duties, to boost local production.³⁸ However, the "Make in Pakistan" mobile phone initiative failed to boost local production, as manufacturers didn't meet

localization targets – even for packaging, leading to tax revenue losses of up to PKR 46.2 billion (\$166.2 million).³⁹

- While these incentives create a favourable investment landscape, their long-term sustainability and effective implementation remain challenges.

The establishment of special zones to promote digital innovation and attract FDI

- The establishment of special technology zones,⁴⁰ special economic zones and export zones in Pakistan facilitate investment and drive economic progress. These special zones offer unique tax incentives such as an exemption from all taxes on income for a period of 10 years, maintaining foreign exchange (forex) accounts for investors, etc.⁴¹ So far, 18 STZs have been approved.⁴²

3.2.2 Key considerations

Growth in the digital economy faces several important considerations in relation to the four pillars of the Digital FDI framework. These range from policy direction and continuity to digital-centric regulations and implementation challenges.

Understanding of the digital economy and institutional alignment

- The digital economy has significant potential, and a more integrated approach to policy design and implementation is needed to realize this potential.
- A multifaceted governance structure, with various federal and provincial agencies managing different components of the digital agenda, requires enhanced coordination and alignment.

Policy and regulatory coherence

- Ensuring predictable and well-structured policies can create a more enabling environment for digital innovation and sustainable growth.
- Enhanced policy stability is needed to bolster start-up ecosystems and instil greater confidence among foreign investors, encouraging long-term commitments to Pakistan's digital sector.

Access to capital and the cross-border flow of funds

- Start-ups, businesses and SMEs in Pakistan need better access to capital. A simplified regulatory environment and an economic climate that encourages investment can better support the ecosystem.

- Addressing challenges such as currency volatility and promoting a stronger local investor base could encourage both domestic and foreign investment.
- Regulations favouring physical assets as collateral can limit borrowing opportunities for enterprises focusing on digital assets. Reforms in these regulations could unlock new opportunities.
- Streamlining outward fund movement and improving limits on foreign currency earnings is required to ensure seamless payments by organizations.
- There is a need to ensure timely profit repatriation mechanisms to further boost investor confidence and attract more foreign capital to Pakistan's growing digital sector.

Industry-academia alignment and skills development

- Due to an ever-evolving digital landscape, there is a need to align academia and industry to ensure that graduates have the necessary skills to enter the workforce.
- Policies such as the Higher Education Commission's (HEC) PhD requirement for IT faculties⁴³ can impact the hiring of market-experienced experts. As emerging technologies such as AI, blockchain and coding gain traction, there is a growing push to equip the workforce with the necessary expertise.
- There is a need for skilled professionals in the IT industry. allocate to training allowing them to focus on
- **Connectivity infrastructure and digital adoption (especially beyond Tier 1 cities⁴⁴)**
- Operational challenges, taxation policies and procedural barriers – such as the Right of Way (RoW) directive for optical fibre deployment⁴⁵ – may pose obstacles, obstacles. Addressing these issues can help boost optical fibre penetration ultimately expanding and improving connectivity for individuals, businesses and investors These challenges are well known, and MoITT is in the process of harmonization of RoW, provisioning a RoW single window portal. Additionally, the aim is to launch a RoW complaints portal by the end of February 2025. RoW is covered in the National

Fiberization Policy that has been crafted under the Digital Economy Enhancement Project (DEEP).

- Optimization of taxation rates is needed, particularly in the telecom industry, to improve service affordability for low-income groups, enabling more widespread access to digital services and encouraging increased investment in coverage and service quality.
- Revisiting spectrum pricing structures is required, especially in relation to currency fluctuations, as it presents an opportunity to enhance the sustainability of mobile operations and encourage further infrastructure investment.
- Improving connectivity quality is needed to enable the growth of more advanced digital use cases, such as edtech, fintech and freelancing, supporting the broader digital economy.
- There is a need to shift behavioural preferences and address connectivity gaps to drive a greater adoption of digital services, such as digital payments, to offer new opportunities both for businesses and consumers to benefit from these services.

Regulatory frameworks for data governance

- Efforts to refine the Personal Data Protection Bill are ongoing. There is a need to expedite progress and ensure alignment with both local and global standards to create greater confidence among stakeholders. Pakistan's cautious stance on data localization presents considerations for foreign companies, so a well-balanced approach is required to create an environment that supports both local regulatory compliance and attracts foreign investment.
- Strengthening data security and protection mechanisms presents an opportunity to mitigate risks for foreign investors, which could create a more secure and attractive environment for investment in Pakistan.

Intellectual property (IP) protection regulations

- Data protection frameworks and IP laws need to be strengthened and implemented to encourage innovation and foster a more competitive digital economy.

3.3 Policy options

A rich repository of 55 policy options emerged from the consultation held to address the challenges identified and unlock the potential of opportunities outlined earlier. These policy options are closely aligned with results from the investors' survey, which emphasized similar factors as important in influencing investment decisions. The complete results from the survey can be found in Annex 2. Policy options have been categorized in the following thematic areas:

1. Strengthen the institutional architecture to promote an integrated understanding of the digital economy
2. Create an enabling regulatory environment through interventions and measures to ensure policy continuity, coherence and ease of compliance
3. Improve the business case for companies that are digital natives as well as digital adopters through a digital-centric tax regime

4. Enhance digital infrastructure to create a cost-effective and accessible digital ecosystem that can support the digital economy
5. Bridge the industry-academia gap through collaboration, policy interventions and capacity-building
6. Facilitate cross-border access to capital and funding for businesses
7. Strengthen IP and data governance (laws and regulations) to align with international good practices

While all 55 of the policy options identified during these consultations have the potential to positively influence and enable digital FDI either directly or indirectly, a systematic prioritization was undertaken to determine the resources, time and effort required to achieve the highest impact. The policy options were analysed and synthesized in an action priority matrix where each policy option was scored on the following metrics:

TABLE 3 Defining metrics across which all policy options are ranked in the action priority matrix

Scoring indicator	Metric	Description
Relevance	<div>Direct</div> <div>Indirect</div>	The degree to which a policy option can influence increased digital FDI
Impact	<div>High</div> <div>Medium</div> <div>Low</div>	The effect of a policy option on the digital ecosystem to eventually increase digital FDI
Effort	<div>Low</div> <div>Medium</div> <div>High</div>	A composite estimate comprising: <ul style="list-style-type: none"> – Ease – Time frame – Acceptability to decision-makers



The complete distribution of policy options is available in Annex 3. Table 4 summarizes the distribution of policy options across the action priority matrix:

TABLE 4 **Action priority matrix with the number of policy options identified for each cell**

Scoring indicator	Metric	Description		
		● Low effort	● Medium effort	● High effort
Direct relevance to FDI (total: 35)	High impact	11	10	12
	Medium impact	–	2	–
	Low impact	–	–	–
Indirect relevance to FDI (total: 20)	High impact	1	1	3
	Medium impact	3	2	6
	Low impact	1	2	1

Note: Green highlighting reflects cells with the policy options that have the greatest potential to increase digital FDI

The greatest opportunity to increase digital FDI is offered by policy options that:

- Directly influence the flow of digital FDI
- Generate high impact

These are narrowed down in Section 4 to those selected through a stakeholder consultation process for implementation support.



4

DEP implementation

The crucial steps towards implementing DEP involved selecting the most important policy options and then drawing up achievable action plans.

The analysis in Section 3 guided the refinement and prioritization of the 55 identified policy options. The subsequent step involved building consensus on

achievable measures that could be presented to government partners – the BOI and MoITT.

4.1 Priority areas

A consultative workshop was held to align feasible actions with the economic growth objectives of the Government of Pakistan, particularly within the digital sector. The workshop brought together a diverse range of stakeholders from the public and private sectors, including federal and provincial institutions, business associations, financial institutions, incubators, digital enterprises, academic institutions and subject-matter experts. The complete list of participants is in Annex 4.

This workshop facilitated comprehensive discussions, integrating diverse perspectives to address challenges and opportunities for enhancing digital FDI in Pakistan. This collaboration identified priority actions to drive digital investment forward.

Participants analysed the 55 policy options, working in groups designed to ensure sectoral diversity. Through a ranking exercise they prioritized 20 policy options and identified six priority actions (see Table 5).

TABLE 5 **The six priority actions shortlisted after a multistakeholder consultative process, to be taken to government partners for implementation**

Digital FDI-Enabling Project – six priority actions	
1	Promote private-sector projects based on sectoral priorities and ticket size to connect local players with international investors/partners.
2	Increase the role of the Prime Minister's Office in supporting a holistic agenda and implementation of digital economy priorities (in particular, investor confidence through an improved enabling environment).
3	Enhance human capital by bridging the industry–academia gap to improve digital skill sets through advanced education and internationally accredited training programmes.
4	Become a digital-centric investment destination by offering a rationalized and stable tax policy and regulations for investors.
5	Accelerate the operationalization of special technology zones (STZs).
6	Ensure efficient spectrum management through fair pricing and transparent processes enabling timely network deployment and use to improve connectivity.

4.2 Governance structure for the implementation phase

A technical working group (TWG) has been officially notified to provide focused expertise and guidance, serving as an autonomous body supporting the development of achievable plans for each of the six priority actions in collaboration with the government.

Regular meetings of the TWG produced detailed draft action plans over four weeks. These drafts

are currently under consideration by government partners, the BOI and MoIT.

To ensure successful implementation, the TWG will seek formal endorsement and ownership from the highest levels of both the BOI and MoIT.

4.3 Draft action plans

The following tables consist of the draft action plans developed by the TWG for each of the six priority actions. These action plans will be implemented

in collaboration with the project team, relevant government institutional bodies and other external partners, as necessary.

TABLE 6 Draft action plan 1 – Priority action 1

1	Promote private-sector projects based on sectoral priorities and ticket size to connect local players with international investors/partners.
1.1	Identify a sample digital FDI project to work on as a demonstration of how it can be packaged to be more attractive to investors – in other words, made more “investable”
1.2	Conduct a virtual workshop with relevant stakeholders to introduce the World Economic Forum’s methodology for developing investable projects and to begin applying this approach together to the sample digital FDI project to enhance its attractiveness and readiness for investment
1.3	Continue to work on improving the sample digital FDI project investability packaging
1.4	Create a longlist of additional digital FDI projects that can be made more investable through the methodology
1.5	Encourage the Government of Pakistan to use the methodology to package additional digital FDI projects
1.6	Use DCO’s InvestConnect programme to showcase investable projects: Investrek Mission to bring investors to Pakistan and connect them with Pakistani start-ups; selected start-ups will pitch for an opportunity to receive feedback or potential investment
1.7	Use DCO’s InvestConnect programme to showcase investable projects: DealZone missions to connect Pakistani start-ups with investors in DCO member states (Jordan and Cyprus in 2024); DCO will facilitate targeted introductions between vetted start-ups and interested investors at global events in its member states
1.8	Showcase investable digital FDI projects at the DFDI Forum to build awareness/interest, especially with business/potential investors
1.9	Align investor priorities with the most promising investable digital FDI projects
1.10	Pursue relevant investors bilaterally to further explore and capture the most promising project opportunities
1.11	Celebrate potential successful investable digital FDI projects at relevant national and international forums

The World Economic Forum, DCO and Tabadlab will provide support for the implementation of these action plans

TABLE 7 | Draft action plan 2 – Priority action 2 (already under way*)

2	Increase the role of the Prime Minister's Office in supporting a holistic agenda and implementation of digital economy priorities (in particular, investor confidence through an improved enabling environment).
2.1	Review the Digital Nation Pakistan (DNP) Act 2024 that was recently approved by the cabinet to offer legislative assistance and ensure that creating an enabling environment for digital economy players, especially DFDI players, is an important component
2.2	Engage with DCO member states and the World Economic Forum's network to exchange lessons learned and governance priorities from experienced countries
2.3	Promote active dialogue between the Prime Minister's Office and local digital leaders and champions (who will be engaged through priority action 1) to ensure active understanding of and alignment with industry needs and demands

The World Economic Forum, DCO and Tabadlab will provide support for the implementation of these action plans

*The Federal Cabinet approved the Digital Nation Pakistan Act 2024, aimed at establishing the National Digital Commission (NDC) and the Pakistan Digital Authority (PDA). The NDC, headed by the prime minister, will serve as a policy-making organization while the PDA will function as a corporate entity with financial and administrative autonomy.



TABLE 8 | Draft action plan 3 – Priority action 3

3	Enhance human capital by bridging the industry–academia gap to improve digital skill sets through advanced education and internationally accredited training programmes.
3.1	Undertake a landscaping activity to create a directory (including enrolment number, pass-out percentage, financial arrangements, etc.) of all digital-skills courses being offered through various private and public-sector programmes such as those under Ignite, the National Vocational and Technical Training Commission (NAVTTTC)
3.2	Undertake rapid assessment, including gap analysis, to identify skills deficit vis-à-vis the industry's demand; hold consultations with key actors in the IT and skills sector (e.g. Pakistan Software Houses Association [P@SHA], provincial IT boards and NAVTTTC) to get a holistic understanding
3.3	The World Economic Forum and DCO to share good practices on designing industry–academia cooperation mechanisms
3.4	Create an industry–academia consortium to study the findings of the rapid assessment and skills gap to identify and align on remedial measures; enable and use knowledge-sharing/good practice exchange between digital FDI project countries and DCO member states
3.5	Develop a skills enhancement roadmap – which should clearly delineate targets and milestones, responsibilities and accreditation partners – that focuses on how to: 1) increase the supply of highly qualified trainers (related to removing PhD requirements), 2) reduce the cost of training for participants, and 3) enrich the curriculum
3.6	Seek approval on the roadmap from the Digital FDI steering committee
3.7	Execute the roadmap within the stipulated duration, ensuring robust monitoring and evaluation during the implementation phase

The World Economic Forum, DCO and Tabadlab will provide support for the implementation of these action plans

TABLE 9 Draft action plan 4 – Priority action 4

4	Become a digital-centric tax destination by offering rationalized and stable tax policy and regulations for investors.
4.1	Conduct a comprehensive study to review the current tax regime, benchmarking against international and regional digital taxation regimes and identifying best practices
4.2	Conduct trend analysis of Pakistan's tax structures over the past 20 years and undertake modelling and sensitivity analysis to gain a comprehensive understanding of the tax landscape and priorities
4.3	Organize a closed-door workshop with all relevant government and private-sector partners (MoITT, the Federal Board of Revenue [FBR], P@SHA, the Pakistan Telecom Operators' Association (TOA), the Venture Capital Association of Pakistan, the Overseas Investors Chamber of Commerce and Industry [OICCI], the Pakistan Business Council, BOI) for a comprehensive dialogue on the rationale for the current tax regime and its implications, demands of the industry and limitations faced by the government
4.4	Establish a digital tax forum to hold dialogues on the tax regime for the digital sector and explore rationalization strategies to help bridge the gap between government priorities and industry demands
4.5	Align and commit to the tax regime on digital for the next year by an agreed timeline (suggested March 2025)

The World Economic Forum, DCO and Tabadlab will provide support for the implementation of these action plans

TABLE 10 Draft action plan 5 – Priority action 5

5	Accelerate the operationalization of STZs.
5.1	Facilitate consultations with relevant actors to understand current delays and explore potential solutions
5.2	Use the NDC and the Digital Transformation Authority (DTA) to highlight and emphasize the need to accelerate the establishment and operationalization of STZs
5.3	Conduct a sizing study to demonstrate the impact of virtual STZs
5.4	Hold dialogue to explore the establishment of virtual STZs
5.5	Facilitate the implementation of the solutions deliberated during dialogue

The World Economic Forum, DCO and Tabadlab will provide support for the implementation of these action plans

TABLE 11 Draft action plan 6 – Priority action 6

6	Ensure efficient spectrum management through fair pricing and transparent processes enabling timely network deployment and use to improve connectivity.
6.1	Notify a spectrum working group (SWG) with high-level members from the MoITT, the Pakistan Telecommunication Authority (PTA), the Frequency Allocation Board (FAB) and mobile network operators (MNOs)
6.2	Have the SWG submit a joint set of recommendations (availability – bands, blocks, terms – currency, payment plan, roll-out, quality of service (QoS) for the upcoming spectrum auction to MoITT/PTA/DTA/NDC/the Special Investment Facilitation Council (SIFC)
6.3	Hold open consultations within SWG on the findings and recommendations of consultants for spectrum auction
6.4	Develop a policy brief on spectrum that outlines the decision options, upside and risks for a five-year period with respect to digital outcomes in Pakistan
6.5	Publish an information memorandum for spectrum auction
6.6	Outline spectrum auction and subsequent steps on roll-out/QoS

The World Economic Forum, DCO and Tabadlab will provide support for the implementation of these action plans

5

The way forward

The next step is to finalize and implement the action plans.

The project has successfully advanced through key milestones, guided by a comprehensive process led by the project team. Once finalized, implementation of the priority action plans is crucial to realizing the project's aim of cultivating an enabling environment for digital FDI in Pakistan. The following steps outline the path forward for the project:

- Secure the finalization, approval and endorsement of draft action plans by relevant government agencies
- Begin executing these action plans with the support of the World Economic Forum and the Digital Cooperation Organization
- Highlight and showcase the project's successes on international forums to gain global visibility
- Conduct a thorough impact assessment to evaluate the effectiveness and outcomes of the implemented actions



Annexes

Annex 1 The policy and regulatory landscape in Pakistan

List of abbreviations used in the tables:

FBR	Federal Board of Revenue
IPO	Intellectual Property Organisation of Pakistan
MoFEPT	Ministry of Federal Education and Professional Training
MoITT	Ministry of IT and Telecommunications
NAP	National Action Plan
PTA	Pakistan Telecommunication Authority
SBP	State Bank of Pakistan
SECP	Securities and Exchange Commission of Pakistan
WTO	World Trade Organization

TABLE A1 | Table of Digital FDI policies and regulations in Pakistan

Category	Name	Instrument	Organization	Year	Status
Digital Vision (National Agenda)	Digital Nation Pakistan Act	Act	MolTT	2025	<p>Digital National Pakistan (DNP) Act, 2025 is a landmark piece of legislation aimed at transforming Pakistan into a digitally empowered nation. With a focus on fostering a dynamic digital society, robust digital economy, and efficient governance, DNP Act sets the foundation for the country's digital future. It leverages the potential of digital technologies to drive innovation, economic growth, and improve societal well-being. This lays the foundation for a vibrant digital society, an expanding digital economy, and transparent digital governance – all underpinned by a robust digital infrastructure.</p> <p>As envisioned in this Act, National Digital Commission (NDC), Pakistan Digital Authority (PDA), and the Strategic Oversight Committee (SOC), will be established to help effectively drive the 'Digital National Pakistan' vision.</p>
	Telecom Consumer Protection Regulation	Regulation	PTA	2009	Aims to protect the rights and interests of telecom consumers by focusing on issues related to quality of service and billing and charging practices. It provides the legal framework for protecting the personal data of individuals and regulating its processing and use by data controllers and processors. The regulation has been amended periodically, most recently in 2017, to reflect changing consumer needs and advances in technology.
Data security	Personal Data Protection Bill (Draft)	Bill	MolTT	2020 (latest draft 2024)	<p>The country's first data protection legislation, the Personal Data Protection (PDP) Bill, aims to safeguard personal data, enhance privacy rights and regulate data processing by organizations. After undergoing multiple consultations and revisions, the bill is currently being finalized by the Ministry of Information Technology and Telecommunication (MolTT) based on further industry feedback.</p> <p>However, concerns have been raised regarding provisions for data localization and stringent limitations on cross-border data flows, as well as the potential regulatory burden and compliance costs for businesses, which could hinder innovation and investment in the digital sector.</p>
	The Copyright Ordinance 1962	Ordinance	IPO	1962	Establishes copyright protection for literary, artistic and intellectual works. However, it has not been updated to address the issue of online privacy and digital copyright infringement, which pose significant challenges for copyright holders in Pakistan in the emerging digital age.
Copyright laws to protect intellectual property	Copyright Rules 1967	Rules	IPO	1967	Provides procedural guidelines for implementing the Copyright Ordinance, 1962, including registration, licensing and dispute resolution. As above, this has not been updated with regards to digital technologies and requires significant revisions to ensure clear provisions and adequate enforcement and to remove outdated terms that fail to take into account emerging digital technology.
	Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)	International treaty	WTO	1995	Since the establishment of the Intellectual Property Organization of Pakistan in 2012, there have been efforts to implement TRIPS requirements and regulations, with further progress and steps for comprehensive compliance remaining areas for future focus.
Data privacy regulations	National Cyber Security Policy	Policy	MolTT	2021	<p>Provides a comprehensive framework for ensuring the security, resilience and integrity of national cyberspace, including critical infrastructure, government networks and private-sector systems.</p> <p>There is a need to ensure the adequacy and effectiveness of the implementation and enforcement mechanisms of the policy, particularly in terms of resource allocation, training and accountability. A continuous evaluation and monitoring of the impact of the policy on the cybersecurity landscape – especially in terms of the reduction of risks and threats, the enhancement of trust and confidence and the promotion of innovation and prosperity – will also be required.</p>

Data privacy regulations	Removal and Blocking of Unlawful Online Content (Procedure, Oversight and Safeguards) Rules	Rules	MoITT	2021	<p>Mandates the PTA to remove or block any unlawful online content as understood as per the local law. The rules promote the use of technology and automation for the detection and filtering of such content, while also emphasizing the importance of human oversight in complex cases.</p> <p>Promoting transparency and accountability in the enforcement of these rules can enhance public trust and cooperation. While the rules refer to other statutory laws to define what is unlawful, further clarity in definitions of terms (e.g. obscenity, morality, decency, etc.) can help with effective implementation. The rules also allow aggrieved parties to appeal to the regulator for a review of its decisions or even approach the courts.</p>
Economic and technology zone regulations	Special Technology Zones Authority Act	Act	N/A	2021	<p>Provides a legal framework for establishing and operating special technology zones (STZs) in Pakistan that aim to promote innovation, entrepreneurship and technology-based industries. This has the potential to contribute substantively to the development of a vibrant and competitive digital ecosystem in Pakistan, attracting local and foreign investment, talent and innovation.</p> <p>While previously the implementation of the model has been relatively slow, the board of investment is actively pursuing the operationalization of STZs.</p>
	Special Economic Zones Act 2012	Act	N/A	2012	<p>Provision of attractive incentives and a conducive environment for foreign investors, such as tax exemptions, duty-free imports of capital goods and equipment and relaxed regulatory requirements. The one-stop shop (OSS) operation makes SEZs unique.</p> <p>For effective implementation, concerns such as overlapping responsibilities between federal and provincial-level SEZ-related authorities need to be resolved. The BOI is dedicatedly working towards improving the implementation of the act.</p>
Availability of e-payment services	National Payment Systems Strategy	Policy	SBP	2019	<p>Necessary provision for a comprehensive and coordinated approach to modernizing the payment systems landscape. The strategy needs to be actively monitored and adapted to keep up with changes as a result of new and emerging digital technological advances.</p>
	Regulations for Electronic Money Institutions	Regulation	SBP	2019	<p>Regulations that promote innovation in the payments landscape and financial inclusion. In the years since 2019, new digital technologies and services have emerged requiring pertinent revisions to be made to regulate the broadening digital payments ecosystem effectively.</p>
	Licensing and Regulatory Framework for Digital Banks	Regulation	SBP	2022	<p>First step towards embracing changes in the digital financial landscape by providing legal support and structure to facilitate digital banks. The regulation aims to reduce costs and barriers to entry for digital banks to enable the expansion of financial services to underserved and unbanked segments.</p> <p>However, these opportunities come with inherent challenges. Risks of cybersecurity and data privacy breaches have to be effectively addressed as digital banks operate in a highly interconnected and vulnerable ecosystem and deal with customers' sensitive personal and financial information.</p>
	Regulatory Framework for Digital-only Insurers and Microinsurers 2021	Regulation	SECP	2021	<p>Promotes innovation, inclusion and efficiency in the insurance sector by enabling digital-only insurers and microinsurers to offer affordable, customized and accessible insurance products and services. There are challenges in striking the delicate balance between promoting a dynamic and competitive market and safeguarding public policy objectives, such as financial stability, consumer protection and fair competition.</p>
	Payment Systems and Electronic Fund Transfers Act 2007	Act	SBP	2007	<p>The only existing legislation to ensure the safety, security and efficiency of electronic fund transfers.</p> <p>Updated via regulations in 2019, see above</p>

Investment	Income Tax exemption for 10 years (SEZ)	Act	FBR	2012	*See SEZ Act 2012 above
	Income Tax exemption for developers and enterprises (STZA)	Act	FBR	2020	*See STZA Act 2020 above
	Foreign Funding for Start-ups	Revision (to Foreign Exchange Manual Regulations)	SBP	2021	Allows for a necessary boost to the start-up ecosystem in Pakistan by enabling access to much-needed capital from international investors, which can help them scale up and compete in global markets. Issues in opening foreign currency accounts and the shortage of dollars in the country mean barriers to accessing foreign funds still remain as impediments to start-ups efficiently accessing such funds.
	Draft Companies Regulation	Proposed Draft	SECP	2022	Necessary update to the 2017 Companies Act to ensure procedural ease and effective compliance with a more systematic regulatory regime. However, there has been a delay in approval and finalization of the draft.
Support for starting digital businesses	National Freelancing Facilitation Policy	Policy	MoITT	2021	Encourage the development of the freelancing industry in Pakistan by providing support, incentives and infrastructure for freelancers and their clients, such as tax exemptions, access to finance and high-speed internet connectivity. However, there are risks of exploitation, unfair competition and non-payment, particularly for new and inexperienced freelancers who may lack the bargaining power, legal protection and social security of formal workers, and who may be subject to low rates, long hours and unstable income.
	Regulatory Sandbox Guidelines	Rules	SECP	2019	First regulatory provision that enables the testing and development of financial products, services and business models. However, there is now a critical need to expand cohorts and adapt the policy to keep up with rapid digitalization.
	National Skills for All Strategy	Policy	MoFEPT	2018	First national strategy aimed at improving the quality and relevance of vocational education and training programmes. While initially, digital and high-tech skilling were highlighted as key areas under the strategy, this has not translated into a scalable shift towards an increase in high-quality technical workforce to drive digital capacity in the country.
Level of national connectivity (backbone)	National Broadband Policy 2021 (Draft)	Policy	MoITT	2021	Aims to expand high-speed internet access across Pakistan to drive economic growth, setting ambitious targets for increasing broadband penetration and quality of service. Gives special attention to improving broadband access and affordability in rural and remote areas. The draft policy does not adequately address existing infrastructure gaps and challenges. There is a need for more concrete measures to ensure quality of service and consumer protection. It has also had limited buy-in from industry due to concerns about addressing core issues.
	Mobile Device Manufacturing Policy	Policy	MoITT	2020	Aimed at promoting the local manufacturing of mobile devices to reduce reliance on imports, create employment opportunities and stimulate economic growth. A new policy, the Mobile Device Manufacturing and Export Policy, is under review by the industry and is expected to be moved by the MoITT in 2025. Under this, Harmonized System (HS) code semi-knocked down (SKD) and completely knocked down (CKD) levels of manufacturing will be proposed. Import bans amid the current economic crisis badly affected the mobile device manufacturing industry and weakened the implementation of the existing policy, which did not have safeguards in place to respond to the changing economic landscape.

	Cellular Mobile Network Quality of Service (QoS) Regulations	Regulation	PTA	2021	Dedicated regulation for mobile broadband service provision to ensure improvements in user experience and digital inclusion. Replaced the previous iteration, Broadband Quality of Service Regulations, 2014. Implementation has been inadequate owing to regulatory and financial pressures and challenges that deter investment in necessary infrastructure.
	Fixed Broadband Quality of Service (QoS) Regulations, 2022	Regulation	MolTT	2022	Dedicated regulation for fixed broadband service provision to ensure improvements in user experience and digital inclusion. Revision of the 2014 regulations to consider emerging fixed broadband technologies and greater consumer demand for higher-quality services.
	Rolling Spectrum Strategy	Strategy	MolTT	2020	Aimed at ensuring the efficient use of spectrum by enabling allocation on a temporary basis to promote competition and innovation in the telecom sector. The 2021 spectrum auction held under the strategy suffered delays and ultimately proved to be underwhelming, raising serious concerns for policy-makers as only one out of the four important mobile operators participated and only \$279 million was raised against a target of \$1 billion.
	Public and Private Right of Way Policy Directive	Policy Directive	MolTT	2021	To facilitate the deployment of telecom infrastructure, such as fibre optic cables, mobile phone masts and base stations, by providing clear guidelines and by streamlining the approval process for obtaining right of way (RoW) from public and private entities. Historically, there have been incidents of RoW owners dictating terms to telecom operators and using costing as a rent-seeking opportunity. Heavy costs combined with inordinate delays compromise the process of telecommunication infrastructure development. However, there has been a significant ongoing effort to harmonize RoW rates across jurisdictions. The government also plans on introducing a compliant management portal for RoW delay in February 2025.
Level of connectivity of urban centres	5G Strategic Plan and Policy Guidelines (Draft)	Rules	MolTT	2021	First comprehensive and forward-looking roadmap focused on the deployment of 5G technology in Pakistan. However, effective implementation of the roadmap was held up by several challenges, such as a critical lack of basic digital infrastructure (low handset and optic fibre penetration and poor tower density), fiscal burdens (increasing inflation), rising operating expenses and regulatory pressures (high taxation).
Emerging tech	Pakistan Cloud First Policy	Policy	MolTT	2021	Emphasis on shifting government services and data to cloud-based platforms; potential to improve efficiency, transparency and cost-effectiveness of public services; and focus on stimulating the growth of a domestic cloud industry and tech ecosystem. Data localization restrictions in the policy has raised concerns from the industry. Though the policy specifies localization for certain data, the strict restrictions may deter hyperscalers from investing in the country. While progress against the policy has needed more time, the Cloud Service Providers Accreditation criteria and the cloud procurement framework are now available for cloud service providers and public-sector entities. Effective adoption requires capacity-building and training of government officials and IT staff to manage cloud services effectively.
	Internet of Things Framework	Framework	PTA	2022	The country's first formal framework that addresses the deployment of IoT devices and services. However, it may not be sufficiently comprehensive to address all the potential risks associated with IoT devices and services, including concerns about data privacy and security and issues related to interoperability.
Online rules	Prevention of Electronic Crime Act (PECA)	Act	NAP	2016	Offers a legal framework for addressing a wide range of cybercrimes – e.g. hacking, data theft and cyberterrorism – and includes measures for protecting critical infrastructure and online privacy, such as criminalizing unauthorized access to data. Some provisions of the law have been criticized as vague and too broad, resulting in concerns that may lead social and digital platforms not
Digital Pakistan 2023	Draft		MolTT		An update is in development after a round of consultations as the 2020 policy expired in 2023

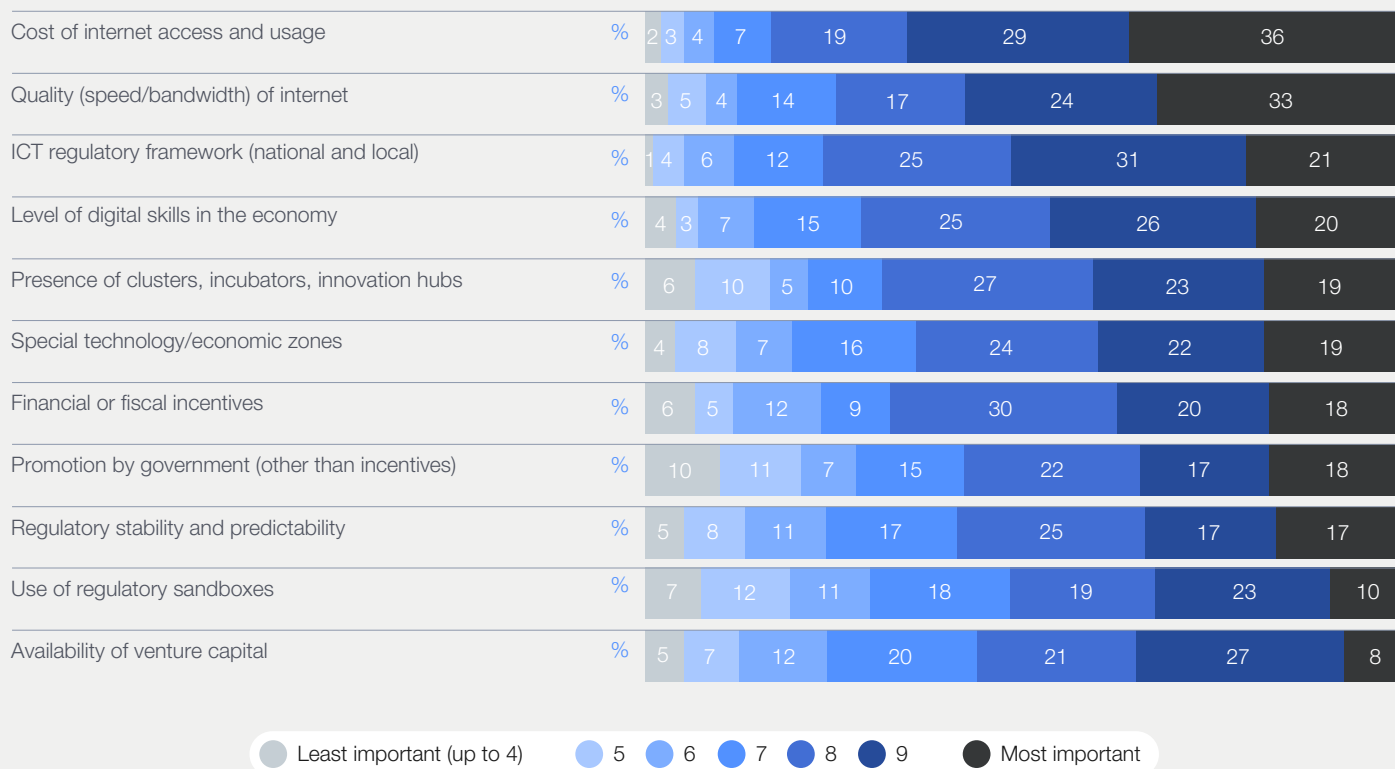
TABLE A2 | In-process policies

Name	Category	Organization	Status
Artificial Intelligence Policy	Draft	MoITT	The draft has been finalized and released
National Broadband Policy 2021	Consultations	MoITT	Undergoing consultative review
5G Strategic Plan and Policy Guidelines 2021	Consultations	MoITT	Undergoing consultative review
Telecom Infrastructure Sharing Framework	Draft	MoITT	The draft is currently being finalized
Regulations for Telecom Equipment Standards, 2023	Draft	PTA	Revised draft is currently being finalized
Spectrum Sharing Framework	Draft	PTA	Draft framework under review
Mobile Virtual Network Operators (MVNOs) Framework	Draft	PTA	Finalized draft shared with government for approval
Over-the-Top (OTT) Regulatory Framework	Consultations	PTA	Feedback on consultation paper sought
Mobile Device Manufacturing Export Policy	Conceptualization	MoITT	Draft policy under development
National Fiberization Policy	Conceptualization	MoITT	Draft policy under development

Annex 2 | Survey results

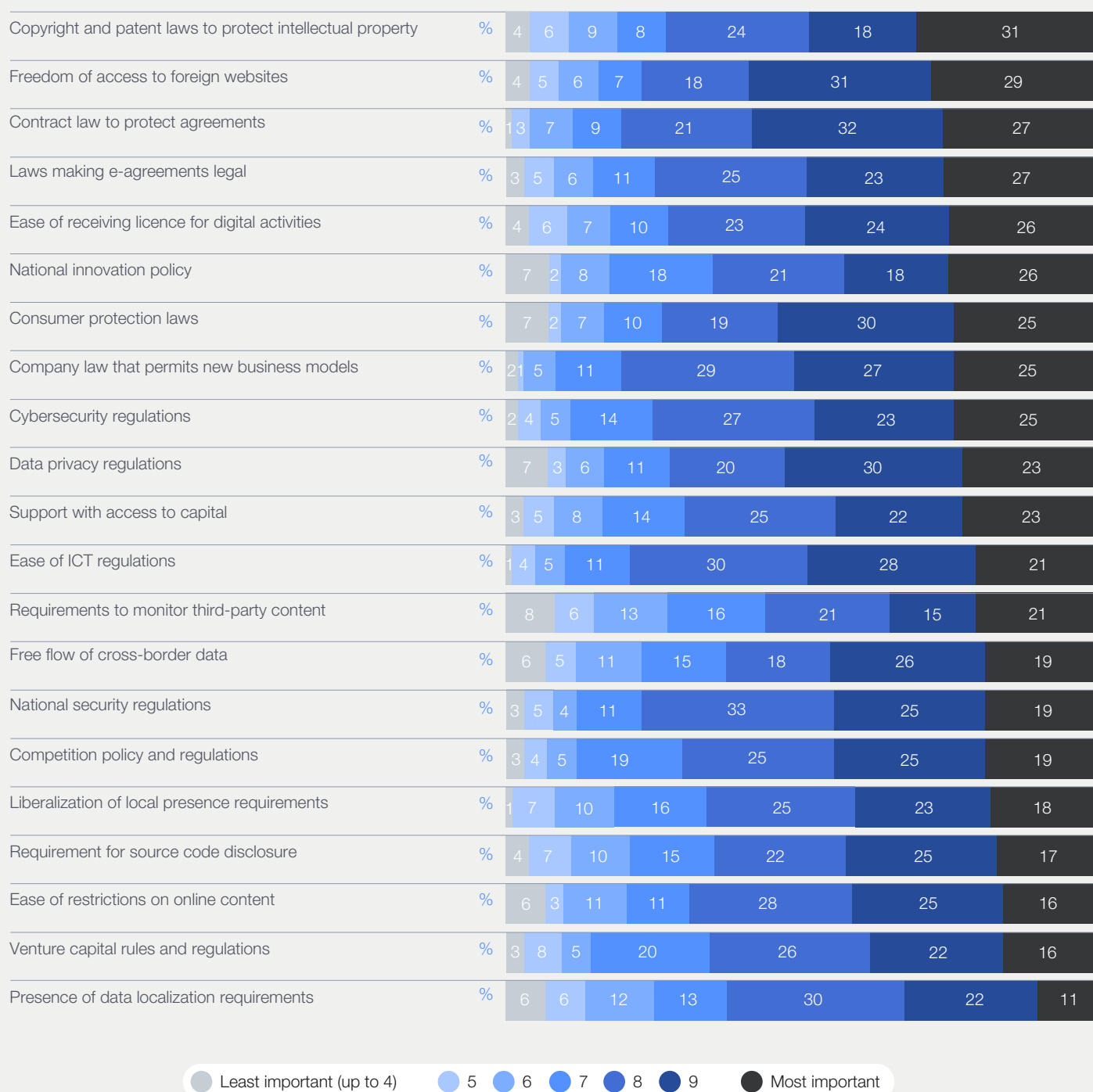
A total of 100 firms were surveyed to identify factors that influence companies' decisions to invest in Pakistan's digital economy, especially in each of the four digital FDI categories. Results from the survey are presented in this annex.

FIGURE A1 | **Factors companies consider important when investing in Pakistan's digital economy**



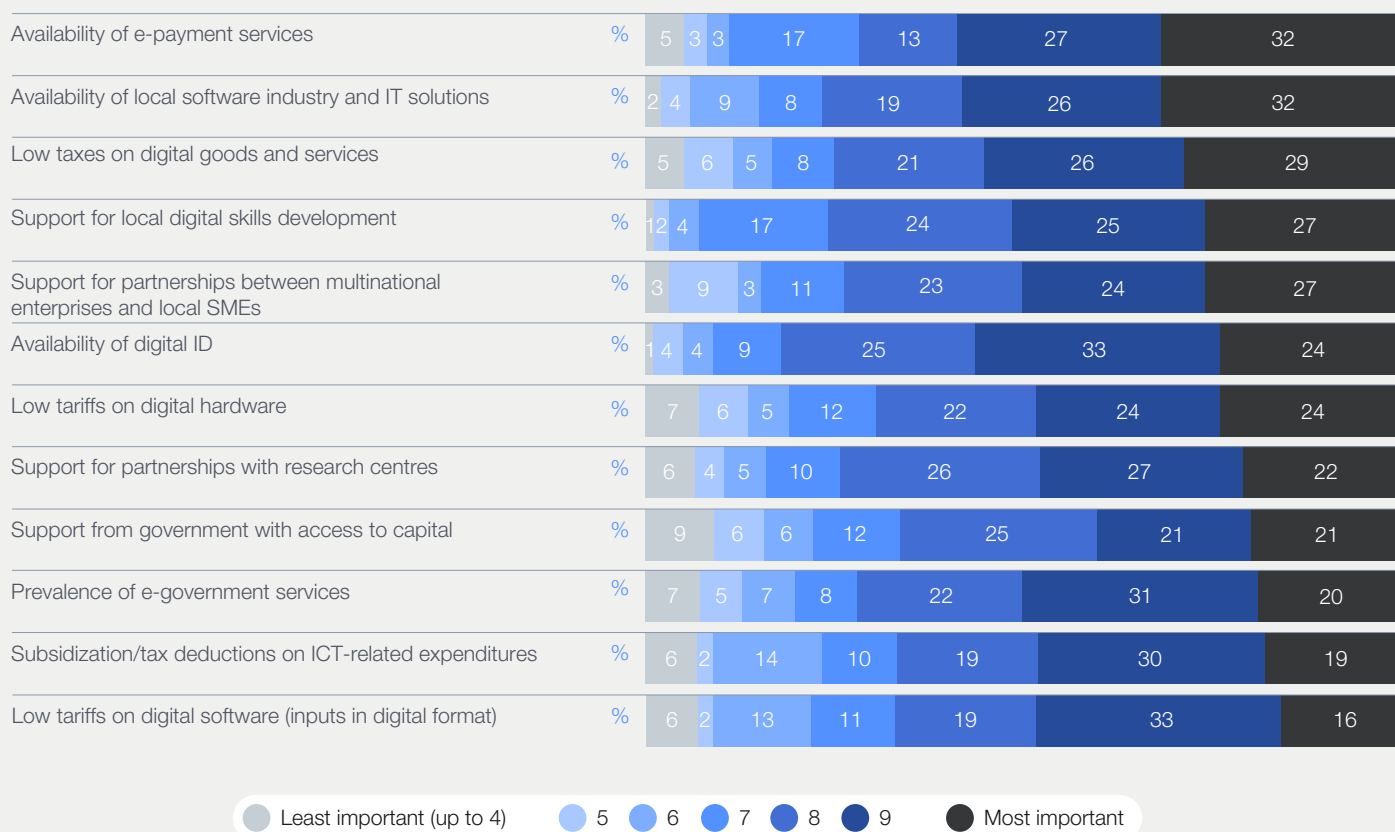
Source: Azure Knowledge, 2023

FIGURE A2 | Factors companies consider important when investing in new digital activities in Pakistan



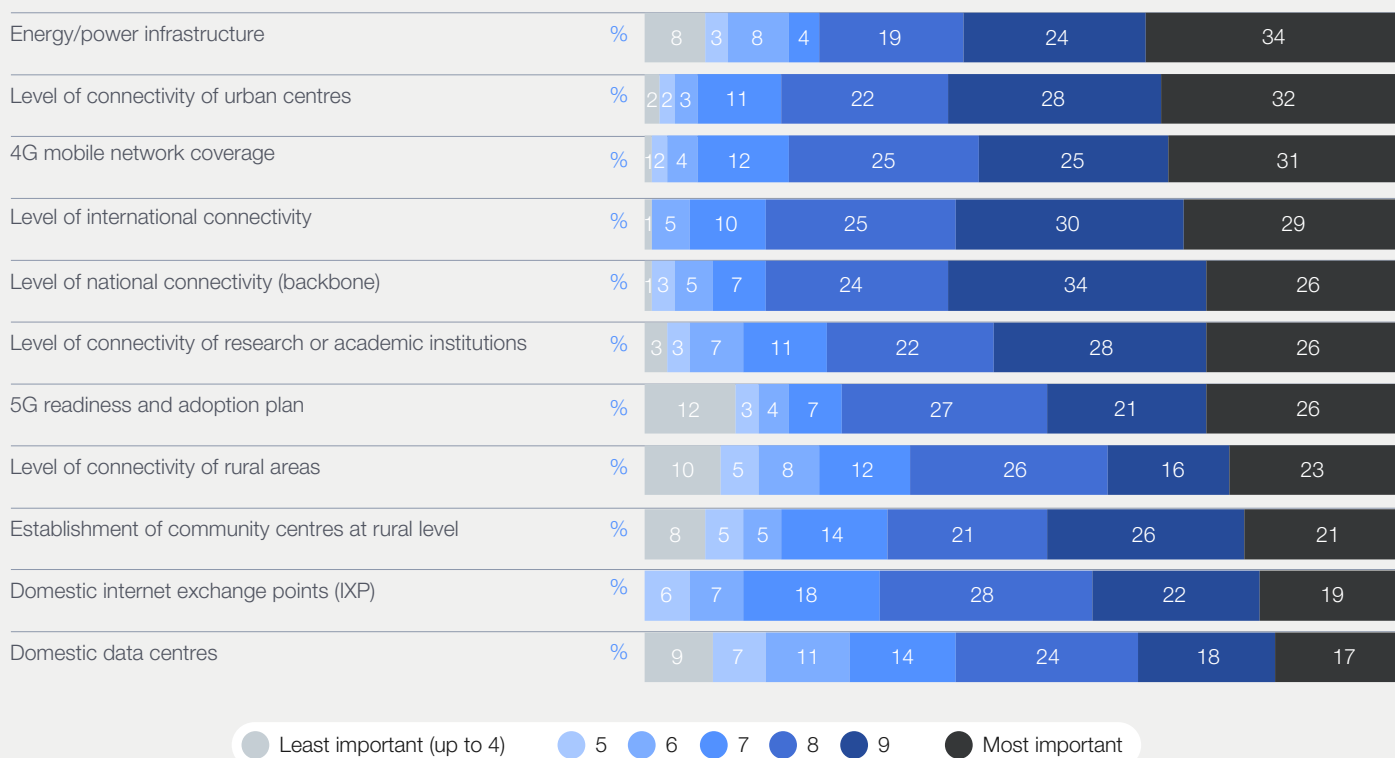
Source: Azure Knowledge, 2023

FIGURE A3 Factors companies consider important when investing in existing firms that are moving towards adopting digital technologies



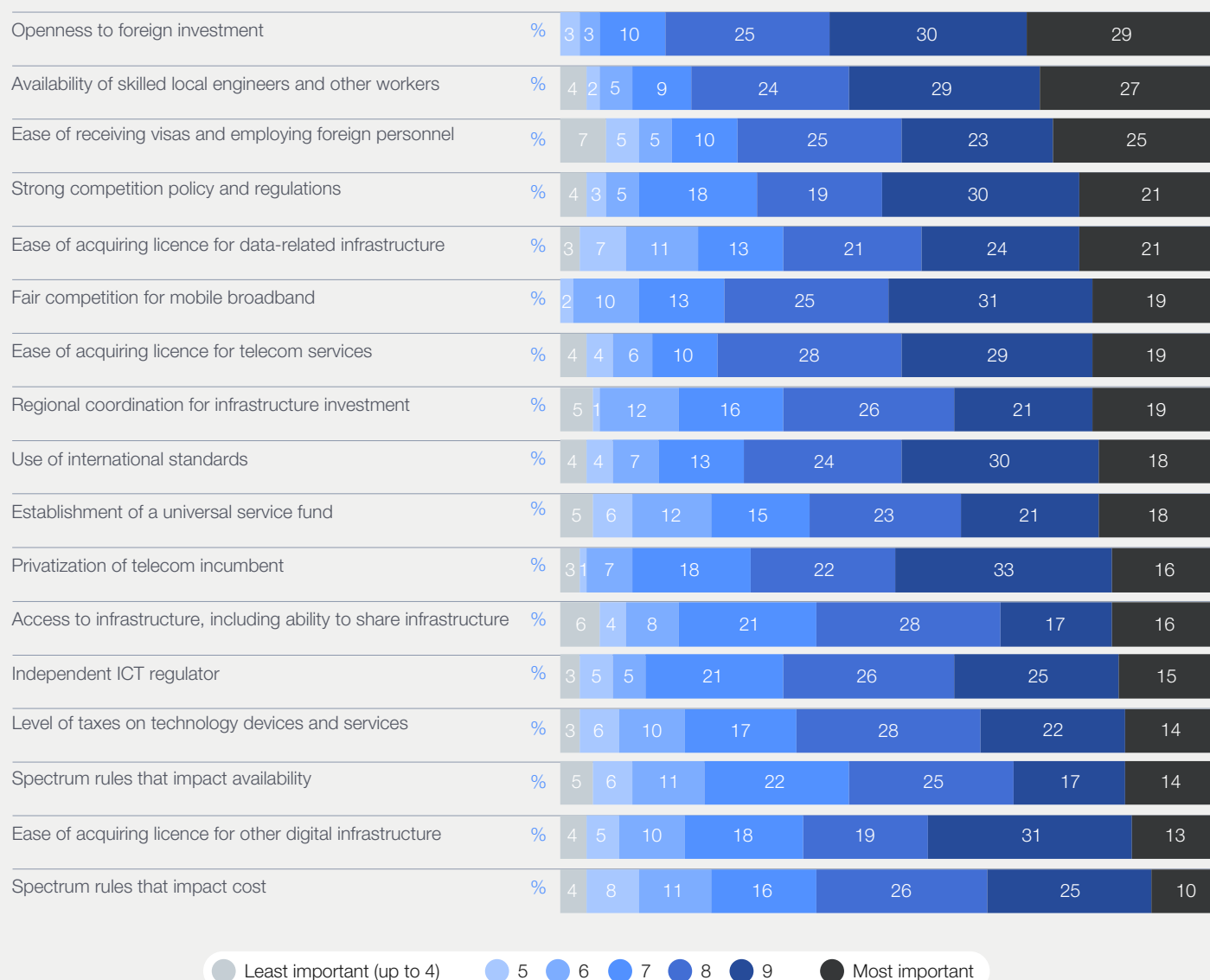
Source: Azure Knowledge, 2023

FIGURE A4 Physical elements that companies consider important when investing in digital infrastructure



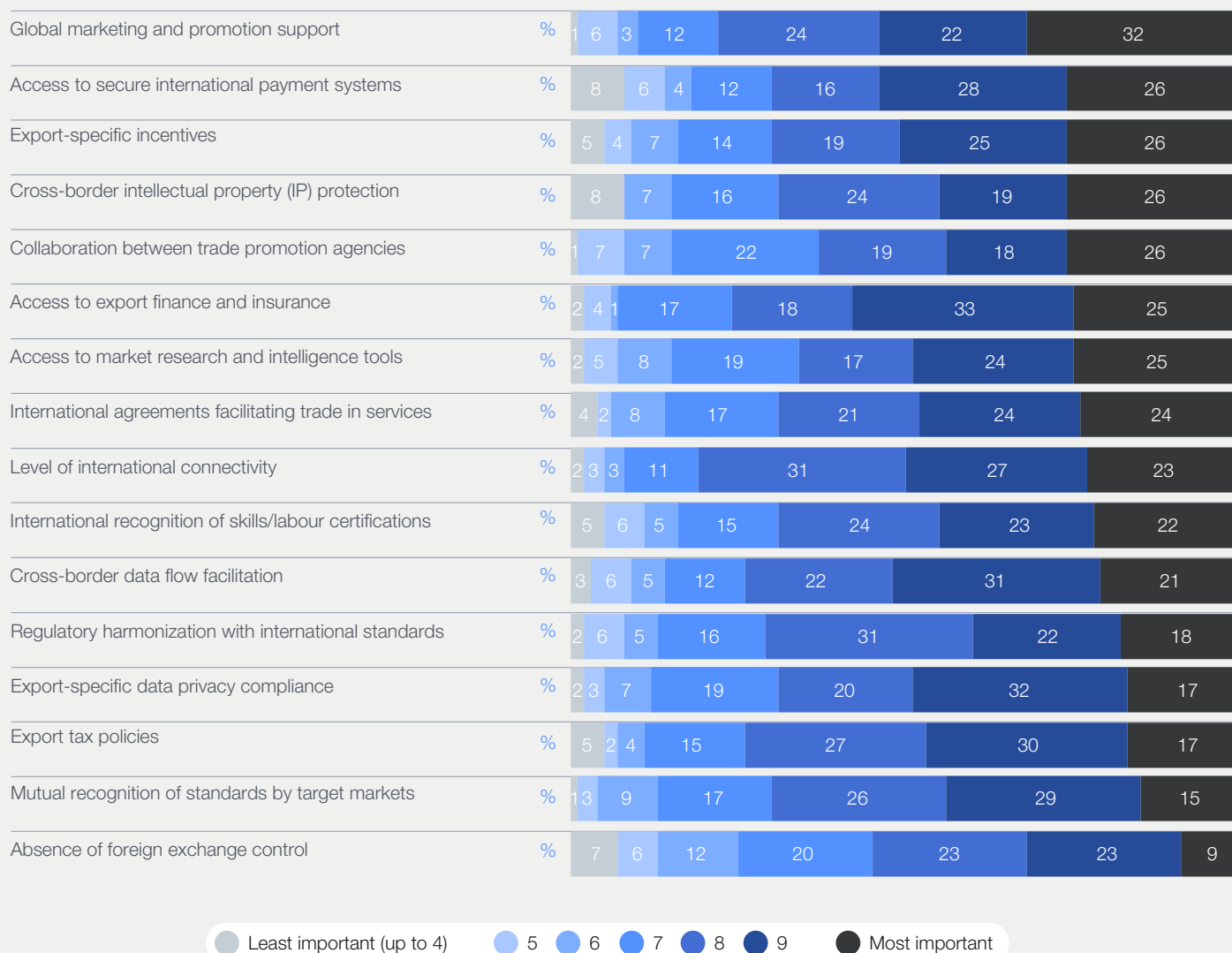
Source: Azure Knowledge, 2023

FIGURE A5 | Regulatory elements that companies consider important when investing in digital infrastructure



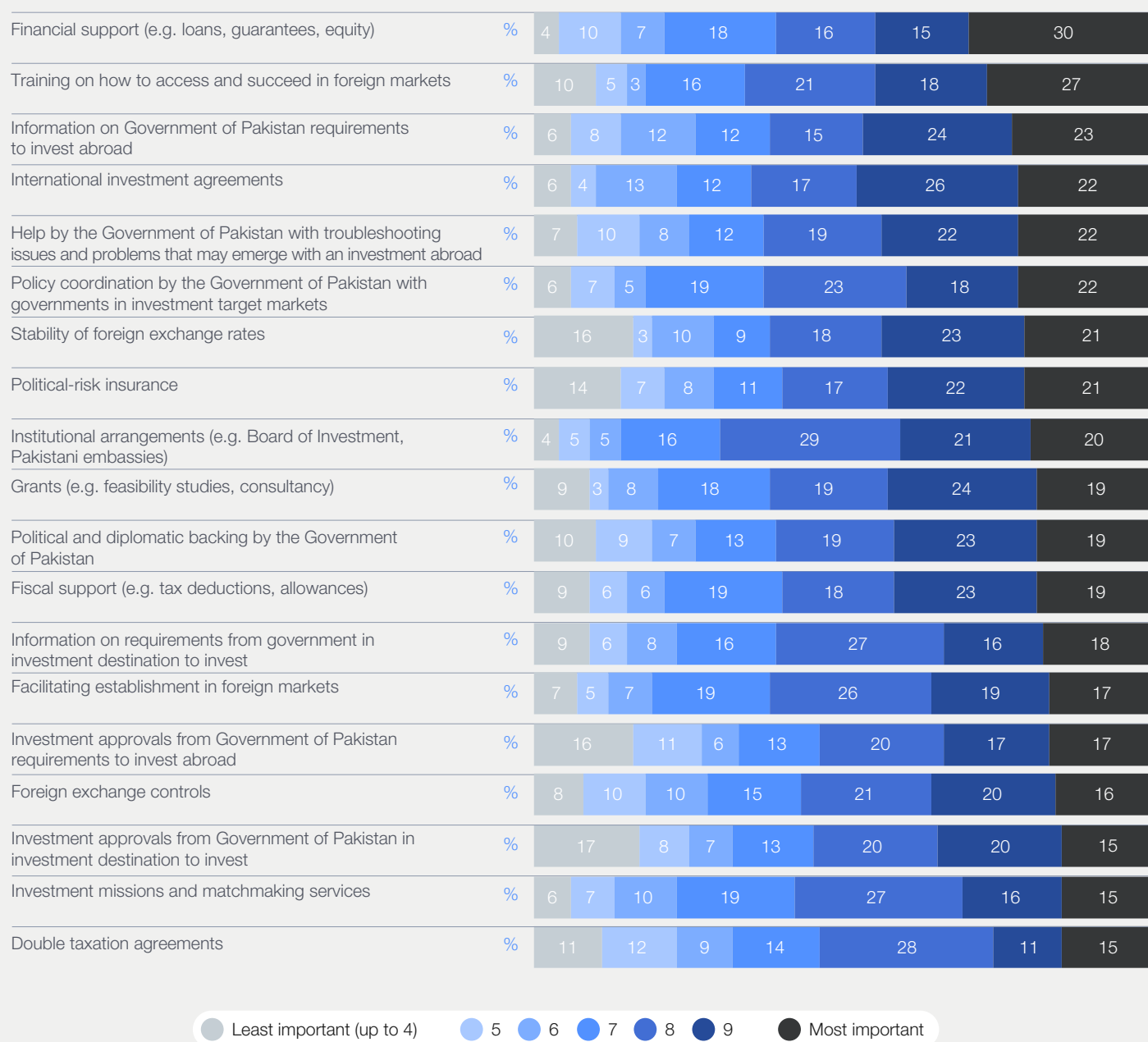
Source: Azure Knowledge, 2023

FIGURE A6 | Factors considered important by companies in Pakistan exporting IT/telecommunication services



Source: Azure Knowledge, 2023

FIGURE A7 | Factors considered important by companies investing abroad in the digital economy



Source: Azure Knowledge, 2023

Annex 3 Mapping policy options

The tables in this annex present policy options categorized into seven themes that emerged through consultations as potential solutions for addressing challenges in growing the digital economy. Each policy option has been rated for metrics of relevance, impact and effort derived from the action priority matrix. Policy options are also tagged to the digital FDI pillar that they are most likely to affect.

THEME 1

Strengthen the institutional architecture to foster an integrated understanding of the digital economy

Relevance	Impact	No.	Option	Effort	DFDI pillars ¹			
					DA	ND	DI	OD
Direct	High	1	Place a digital champion in the highest office (i.e. within the Prime Minister's Office or at the level of a senior minister)	● Low				
		2	BOI to promote private-sector projects based on sectoral priorities and ticket size, to connect local players with international investors/ partners	● Low				
		3	Constitute a multistakeholder committee, with banks and fintech representatives, to collaborate and improve the process of account opening	● Low				
		4	Categorize call centres as part of the IT industry, to facilitate and include investments in call centres as digital investments	● Low				
		5	Establish a dedicated government body for digital transformation with the mandate to develop, implement and coordinate a clear digital vision and strategy	● Medium				
	Medium	6	Develop an effective national-level agriculture policy that is centred on the adoption of agritech and is equipped with necessary support structures for implementation	● Medium				
Indirect	High	7	Provide customized technical and soft skills training to empower regulators to develop conducive policies for the digital ecosystem (investment, IT and telecom)	● High				
	Medium	8	Build a single unified digitalized system to connect government ministries	● High				
		9	Create intergovernmental data-sharing mechanisms to remove data silos	● High				

Policy options to support Theme 1: Strengthen the institutional architecture to foster an integrated understanding of the digital economy

¹ DFDI pillars: DA – digital adoption by existing businesses; ND – new digital activities e.g. start-ups; DI – digital infrastructure; OD – outward digital FDI and digital services exports

Relevance	Impact	No.	Option	Effort	DFDI pillars ¹			
					DA	ND	DI	OD
Direct	High	10	Ease the licence application process by incorporating a checklist of requirements on the regulator's website, making it easier for companies to ensure compliance	Low				
		11	Reduce regulations for internet service providers by a significant amount, as a multiplicity of regulations makes compliance difficult and increases cost and effort for players	Medium				
		12	The SECP to define a post-statutory period after which automatic approval is granted for foreign board members instead of waiting on Mol's approval without any end date	Medium				
		13	Expand existing SBP efforts to digitalize administrative procedures and reduce dependence on paper trails	Medium				
		14	The SECP to create a working and seamless digital registration process for easy business registration	Medium				
		15	Digitalize the account-opening process end to end, including commercial know your customers (KYC) procedures, to simplify regulations that require a significant paper trail	Medium				
		16	Enable the efficient resolution of complaints and cases against the PTA to promote fair conflict resolution and establish trust in the regulatory process	Medium				
		17	Introduce effective national-level regulations and directives that incentivize digital transfers/ transactions over cash-based transfers/transactions	High				
		18	Ensure the sanctity of contracts/agreements to enhance investor confidence trail	High				
Indirect	High	19	Implement targeted/geofenced network shutdowns in the face of security concerns, as opposed to ones that span entire cities	Medium				
	Medium	20	Ensure consistency and harmony between laws of the Pakistan Electronic Media Regulatory Authority (PEMRA) and the PTA to promote a conducive regulatory framework that enables seamless regulation in the telecom sector	High				
	Low	21	Devise mechanisms/forums to encourage collaboration and build trust between regulators and tech industry stakeholders	Low				
		22	Solve banking system fragmentation and increase banked population by attaching a bank account to the computerized national identity card (CNIC) x SIM card through more integrated and more sophisticated use-cases of digital ID	High				

Policy options to support Theme 2: Create an enabling regulatory environment through interventions and measures to ensure policy continuity, coherence and ease of compliance

THEME 3

Improve the business case for companies that are digital natives as well as digital adopters through a digital-centric tax regime

Relevance	Impact	No.	Option	Effort	DFDI pillars ¹			
					DA	ND	DI	OD
Direct	High	23	Create incentives for digital services exports by offering a (tax) refund mechanism that can easily be used by exporters	Low				
	High	24	The FBR to provide stable tax policies and align tax incentives to digital development goals, including tax rationalization for key enablers such as smartphones and internet plans	High				
Indirect	Medium	25	Address and rationalize the difference between taxation rates for freelancers and engineers within the formal IT services sector to encourage the latter to remain in full-time industry jobs	High				
	Low	26	The National Database and Registration Authority (NADRA) to enable in-app notifications or allow WhatsApp as an alternative to short message service (SMS) for one-time passwords (OTPs) on banking apps, especially for smartphone users, as the cost of an SMS has increased by 200%	Medium				

Policy options to support Theme 3: Improve the business case for companies that are digital natives as well as digital adopters through a digital-centric tax regime

THEME 4

Enhance digital infrastructure to create a cost-effective and accessible digital ecosystem that can support the digital economy

Relevance	Impact	No.	Option	Effort	DFDI pillars ¹			
					DA	ND	DI	OD
Direct	High	27	Encourage the establishment of more tech hubs to provide individuals with access to infrastructure	Low				
		28	Showcase more success stories on global platforms by facilitating visits to international events (exhibitions, conferences, etc.) to improve the perception of Pakistan as a viable market for investors	Low				
		29	Designate entire cities that are digital investment leaders as STZs to expand STZ benefits to the entire IT industry	Medium				
		30	Scale infrastructure guarantees and provide concessional funding to support infrastructure projects	Medium				
		31	Re-evaluate and update the spectrum pricing model considering market dynamics and macroeconomic factors for sustainable pricing	Medium				
		32	Government to develop and successfully execute a realistic 5G plan	High				
		33	Boost local manufacturing and production of telecom equipment to reduce import dependence	High				
		34	Ensure incentives to reduce cost and effort around the import of telecom equipment	High				
Indirect	High	35	Create a public start-up fund to ensure productive, accountable and efficient allocation of public funds	High				
	Medium	36	Promote the conversion of mobile phone masts to solar power to reduce cost and ensure connectivity	High				

Policy options to support Theme 4: Enhance digital infrastructure to create a cost-effective and accessible digital ecosystem that can support the digital economy

Relevance	Impact	No.	Option	Effort	DFDI pillars ¹			
					DA	ND	DI	OD
Direct	High	37	Create a consortium to bridge the disconnect between academia and industry	● Low				
		38	Provide internationally accredited digital-skills training to younger people – for example, through working with international organizations	● Low				
		39	Encourage companies to take the initiative to train their employees and create training arms	● Low				
		40	Create strong incentives for people to undertake vocational training as an alternative to tertiary IT education to meet the industry's demand for skilled workers	● High				
Indirect	High	41	Encourage universities to use HEC's IT education policy of allowing 30% of visiting faculty members by bringing in IT industry experts to teach students a market-driven curriculum	● Low				
	Medium	42	Expand software technology parks in university campuses to reduce the talent gap by enabling exchange between faculty and industry and efficiently connecting companies with the right talent	● Low				
		43	Digitalize HEC through the establishment of a small-scale cloud network to enable the proliferation of knowledge and increased access through distance-learning mechanisms	● Low				
		44	Remove the PhD requirement for IT professors to enable a more skills- focused, market-experience-driven teaching faculty and curricula	● Medium				
		45	Develop incentives to encourage schools to teach forward-looking and in-demand digital skills, such as animation, graphic design, video games and robotics	● High				

Policy options to support Theme 5: Bridge the industry–academia gap through collaboration, policy interventions and capacity-building

THEME 6 | Facilitate cross-border access to capital and funding for businesses

Relevance	Impact	No.	Option	Effort	DFDI pillars ¹			
					DA	ND	DI	OD
Direct	High	46	Increase SMEs' access to funding by linking them to investors, facilitating the adoption of lending and enabling opportunities for financing through guarantees	● High				
		47	Explore financial arrangements with international organizations providing guarantees for repatriation risk	● High				
		48	The SBP to fix a time for responding to requests regarding the movement of funds; if no response is offered by the said date, businesses should be allowed to buy US dollars on the open market	● High				
		49	The SBP to develop a stable remittance strategy to encourage individuals to bring money into the country and ensure access to global accounts without difficulty	● High				
		50	Develop debt capital markets and a robust credit history system for long- term sustainability and growth	● High				
Indirect	Medium	51	Update banking regulations to enable non-physical, IT-based products/services as collateral to improve access to funding for digital players, especially start-ups and SMEs	● High				
	Low	52	Arrange buildings near Pakistani embassies where Pakistani companies can set up shop, thereby having access to markets and allowing them to pay costs in PKR	● Medium				

Policy options to support Theme 6: Facilitate cross-border access to capital and funding for businesses

THEME 7 | Strengthen IP and data governance (laws and regulations) to align with international good practices

Relevance	Impact	No.	Option	Effort	DFDI pillars ¹			
					DA	ND	DI	OD
Direct	High	53	Synchronize local data protection regulations with EU laws to instil confidence in foreign clients and enhance local companies' capacity for responsible data processing	● High				
	Medium	54	Revise IP laws and regulations to promote a progressive IP protection regime in line with the needs of the industry and alignment with international standards	● Medium				
Indirect	Medium	55	Allow easy public access to data, especially for farmers to enable effective use of data to boost agritech activities	● Low				

Policy options to support Theme 7: Strengthen data governance (laws and regulations) to align with international good practices

Annex 4 | Digital FDI consultative workshop participant list

Stakeholder category	Stakeholder
Federal institutions	Ministry of Commerce
	Pakistan Telecommunication Authority (PTA)
	National Database and Registration Authority (NADRA)
	Securities and Exchange Commission of Pakistan (SECP)
	Ignite
	Special Technology Zones Authority (STZA)
	National Institute of Banking and Finance (NIBAF)–Pakistan
	National Information Technology Board (NITB)
	Ministry of Planning Development and Special Initiatives (MoPDSI)
	Small and Medium Enterprise Development Authority (SMEDA)
	National Information Technology Board (NITB)
	Pakistan Engineering Council (PEC)
	Power Information Technology Company (PITC)
	Intellectual Property Organisation Pakistan
Provincial institutions	Punjab IT Board (PITB)
	Information Science and Technology Department, Government of Sindh
	Investment Department, Government of Sindh
	Khyber Pakhtunkhwa Board of Investment and Trade
	Balochistan Board of Investment and Trade
	Science and Information Technology Department – Government of Balochistan
	Industries Department, Government of AJK, Muzaffarabad
Business associations	Investment Department, Government of GB, Gilgit
Business associations	Pakistan Software Houses Association (P@SHA)
	Overseas Investors Chamber of Commerce and Industry (OICCI)
Banks	Raqami Islamic Digital Bank
Digital businesses	Zayn Venture Capital
	Digital Miles
	Jazz
Academia	Lahore University of Management Sciences (LUMS)
	Faculty of Computing, the Islamia University of Bahawalpur
	D. J. Sindh Government Science College
	COMSATS University Islamabad
DCO observers	Visa
Civil society	Lawyers

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Acknowledgements

The report was developed as a collaboration between the Digital Cooperation Organization and the World Economic Forum under the Digital FDI Initiative. Michael Kende was Senior Adviser, helping to ensure the highest analytical and operational approaches.

Tabadlab, a research and advisory firm based in Pakistan, made an invaluable contribution to delivery of the project in Pakistan and the development of this report, including analysis and consultation with relevant stakeholders in Pakistan.

A survey was commissioned from Azure Knowledge to identify factors that influence companies' decisions to invest in Pakistan's digital economy, building on an earlier global survey.

Thanks are also due to the many business representatives who contributed their time and insights to identify the actions needed to create a digital-friendly investment climate.

The authors would wish particularly to thank representatives of the Government of Pakistan, whose deep commitment and unfailing support were essential to the project's success. This includes Abdul Aleem Khan, Federal Minister of Investment, and representatives of the Board of Investment, especially Ambreen Iftikhar, Zulfiqar Ali, Mahmood Tufail and Adnan Rajput. Sincere appreciation also goes to Shaza Fatima Khawaja, Minister of State for IT and Telecommunications, Aisha Humera Chaudhry and representatives of the Ministry of IT and Telecommunications, especially Syed Junaid Imam.

The report was refined by colleagues and associates who made insightful comments on drafts and whose expertise and feedback significantly contributed to its final composition.

Production

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Endnotes

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44. In Pakistan, Tier 1 cities include major urban centres such as Karachi, Lahore and Islamabad, which generally have better access to connectivity infrastructure and digital services compared to smaller, less-developed cities (often referred to as Tier 2 or Tier 3). These distinctions are important in reference to digital infrastructure, as tier 1 cities usually enjoy higher internet penetration rates and digital adoption, while other areas lag due to limited infrastructure.
45. The Right of Way (RoW) directive governs permissions and fees required for telecom and internet providers to lay down infrastructure such as optical fibre cables across public and private land. In Pakistan, complex RoW policies often involve multiple layers of permissions, delays and high costs, creating barriers for expanding digital infrastructure. These administrative and financial hurdles discourage investment by making it time-consuming and costly for telecom operators to extend connectivity, especially in underserved areas.



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